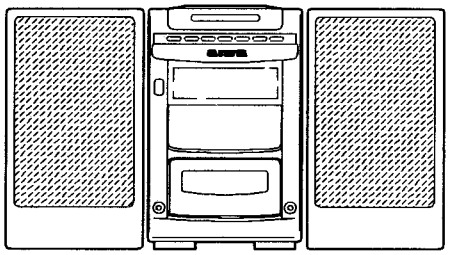
aiwa

aiwa SERVICE

XR-M7

SERVICE MANUAL



COMPACT DISC STEREO SYSTEM

- BASIC TAPE MECHANISM : 2ZM–1R4
- BASIC CD MECHANISM : 4ZG–2AC77
- TYPE: HE, HR, LH, U, EZ

SYSTEM	CD–CASSEIVER	SPEAKER	REMOTE CONTROLLER
XR-M7	CX–LM7	SX–LM7	RC–T515

S/M Code No. 09–961–127–1FE

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SPECIFICATIONS

<FM Tuner section>

Tuning range	87.5 MHz to 108 MHz
Usable sensitivity(IHF)	Except EZ: 13.2 dBf (1.3 μV, 75 ohms) EZ: 17.2 dBf (2.0 μV, 75 ohms)
Antenna terminals	75 ohms (unbalanced)

<AM (MW) Tuner section>

Tuning range	531 kHz to 1602 kHz (9 kHz step) 530 kHz to 1710 kHz (10 kHz step)
Usable sensitivity	350 μV/m
Antenna	Loop antenna

<LW Tuner section>(EZ only)

Tuning range	144 kHz to 290 kHz
Usable sensitivity	1400 μV/m
Antenna	Loop antenna

<Amplifier section>(Except U)

Power output	(without connecting to the SURROUND SPEAKERS) HE, LH: 25 W + 25 W (6 ohms, T.H.D. 10 %) HR: Rated: 20 W + 20 W (6 ohms, T.H.D. 1 %) Reference: 25 W + 25 W (6 ohms, T.H.D. 10 %) EZ: Rated: 20 W + 20 W (6 ohms, T.H.D. 1 %, 1 kHz / DIN 45500) Reference: 25 W + 25 W (6 ohms, T.H.D. 10 %, 1 kHz / DIN 45324) DIN MUSIC POWER: 45 W + 45 W
Total Harmonic distortion	0.1 % (15 W, 1 kHz, 6 ohms)

<Amplifier section>(U only)

Power output	FTC RULE 20 watts per channel minimum RMS, both channels driven, at 6 ohms. From 50 Hz to 20 kHz with no more than 1 % Total Harmonic Distortion
Total Harmonic distortion	0.06 % (10 W, 1 kHz, 6 ohms)

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO_2 tape: 50 Hz – 16000 Hz Normal tape: 50 Hz –15000 Hz
Signal-to-noise ratio	48 dB (CrO_2 tape)
Recording system	AC bias
Heads	Recording/playback/erase head x 1

<Compact disc player section>

Laser	Semiconductor laser (λ =780 nm)
D-A converter	1 bit dual
Signal-to-noise ratio	90 dB (1 kHz, 0 dB)
Harmonic distortion	0.03% (1 kHz, 0 dB)
Wow and flutter	Unmeasurable

<Speaker system SX-LM7>

Cabinet type	2 way, bass reflex (Magnetic sealed type)
Speaker	Woofer: 130 mm ($5^1/_8$in.) cone type Tweeter: 25 mm (1 in.) ceramic type
Impedance	6 ohms
Output sound pressure level	87 dB/W/m
Dimensions (W x H x D)	188 x 286 x 215 mm ($7^1/_2$ x $11^3/_8$ x $8^1/_2$ in.)
Weight	3.7 kg (8 lbs 3 oz.)

<General>

Power requirements	HE, HR, LH: 120 V / 220 – 240 V AC, switchable 50/60 Hz U: 120 V AC, 60 Hz EZ: 230 V AC, 50 Hz
Power consumption	HE, HR, LH: 75 W U: 58 W EZ: 125 W
Dimensions of main unit (W x H x D)	180 x 289.5 x 329.6 mm ($7^1/_8$ x $11^1/_2$ x 13 in.)
Weight of main unit	5.3 kg (11 lbs 11oz.)

• Design and specifications are subject to change without notice.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!
WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserståling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

VAROITUS!
Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

VARNING!
Om apparaten används på annat sätt än vad som specificeras i denna bruksanvising, kan användaren utsättas för osynling laserstrålning, som överskrider gränsen för laserklass 1.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

ATTENTION
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

ADVARSEL!
Usynlig laserståling ved åbning, når sikkerhedsafbrydereer ude af funktion. Undgå udsættelse for stråling.

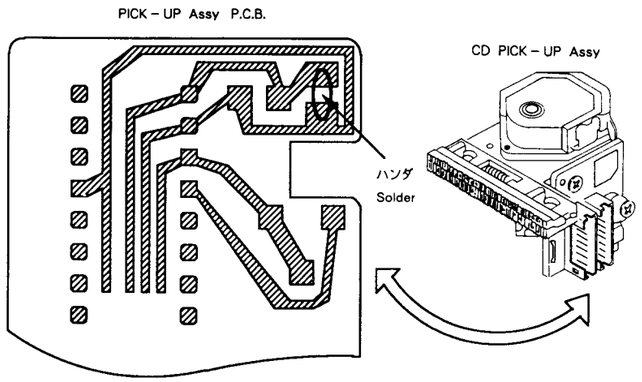
This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Precaution to replace Optical block
(K S S - 2 1 0 A)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

1) After the connection, remove solder shown in figure below.



ELECTRICAL MAIN PARTS LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-020-454-010		IC,DM6851
	87-070-134-010		IC,TA2065F
	87-017-801-089		IC,TA2058F
	87-070-336-019		IC,TC9284BF
	87-017-888-089		IC,NJM4558MD
	85-CF5-641-010		IC,UPD78044BGF-015
	87-070-453-010		IC,SPS-442-1
	87-001-475-019		IC,STK4132-2
	87-001-982-019		IC,TA7291S
	87-017-022-089		IC,NJM2068M-D(T1)
	87-001-607-089		IC,NJM4558M
	87-020-501-089		IC,TA78L005AP
	87-017-375-089		IC,TC4094BF
	87-070-344-049		IC,BA3839F
	87-002-272-089		IC,TC4052BF
	87-070-337-019		IC,BH3854S
	87-017-698-080		IC,M65843FP<HE,HR>
	87-070-127-019		IC,LC72131
	87-017-714-019		IC,LA1836
TRANSISTOR			
	87-026-674-010		P-TR,PT4850F
	89-110-155-089		TR,2SA1015GR
	89-213-702-019		TR,2SB1370E
	87-026-609-089		TR,KTA1266GR
	87-026-610-089		TR,KTC3198GR
	89-327-125-089		C-TR,2SC2712GR
	89-332-665-089		TR,2SC3266GR
	89-111-625-089		C-TR,2SA1162GR
	87-026-226-089		C-TR,DTA143EK
	89-333-266-089		C-TR,2SC3326B
	87-026-238-089		C-TR,DTC144WK
	87-026-293-089		TR,DTC144WS
	89-318-155-089		TR,2SC1815GR
	89-503-655-689		FET,2SK365GR(BL)
	87-026-210-089		C-TR,DTC144EK T147
	89-113-187-889		TR,2SA1318TU
	87-026-211-089		C-TR,DTA144EK T147
	89-333-317-089		TR,2SC3331T
	89-327-126-089		C-TR,2SC2712BL<EZ>
	87-026-224-089		C-TR,DTC143XK
	89-109-521-089		TR,2SA952K
	89-112-965-089		TR,2SA1296GR
	89-327-143-089		C-TR,2SC2714(O)
	87-026-214-089		TR,DTA114YS
	89-505-434-589		C-FET,2SK543(4/5)
DIODE			
	87-020-465-089		DIODE,1SS133
	87-002-225-019		DIODE,DBF 40C-K10
	87-001-574-089		DIODE,1SR139-200 T31
	87-020-027-089		C-DIODE,1SS184
	87-001-916-089		ZENER,UTZJ10B
	87-001-918-089		ZENER,UTZJ22B
	87-001-914-089		ZENER,UTZJ6.2B
	87-001-559-089		DIODE,1SS131(T-72)
	87-020-125-089		C-DIODE,1SS181
	87-017-091-089		ZENER,HZS5C1
	87-002-430-089		ZENER,UTZJ8.2C
	87-001-912-089		ZENER,UTZJ5.1B
MAIN C.B			
C101	87-A10-038-099		CAP,E 4700-35 MUSE FX
C102	87-A10-038-099		CAP,E 4700-35 MUSE FX
C102	87-010-453-099		CAP,E 4700-25 SME<LH,HE,HR>
C104	87-010-235-089		CAP,E 470-16 SME
C105	87-010-381-089		CAP,E 330-16 SME
C106	87-010-407-089		CAP,E 33-50 SME
C107	87-010-407-089		CAP,E 33-50 SME
C108	87-010-407-089		CAP,E 33-50 SME
C109	87-010-263-089		CAP,E 100-10 SME 5X11
C112	87-010-237-089		CAP,E 1000-16
C113	87-010-403-089		CAP,E 3.3-50 SME
C115	87-012-368-089		C-CAP,S 0.1-50 F<U,EZ>
C116	87-012-140-089		C-CAP,S 470P-50 CH
C118	87-012-368-089		C-CAP,S 0.1-50 F<U,EZ>
C123	87-010-263-089		CAP,E 100-10 SME 5X11<U>
C213	87-010-401-089		CAP,E 1-50 SME
C214	87-010-401-089		CAP,E 1-50 SME
C215	87-010-181-089		C-CAP,S 1800P-50 B
C216	87-010-181-089		C-CAP,S 1800P-50 B
C217	87-010-405-089		CAP,E 10-50 SME
C218	87-010-405-089		CAP,E 10-50 SME
C223	87-010-260-089		CAP,E 47-25 SME
C224	87-010-260-089		CAP,E 47-25 SME
C225	87-016-130-089		CAP,E 47-25 KME<EXCEPT U>
C225	87-010-260-089		CAP,E 47-25 SME<U>
C226	87-016-130-089		CAP,E 47-25 KME<EXCEPT U>
C226	87-010-260-089		CAP,E 47-25 SME<U>
C227	87-010-193-089		C-CAP,S 0.033-25 F
C228	87-010-193-089		C-CAP,S 0.033-25 F
C231	87-018-205-089		CAP,TC-U 0.022-25 F<EZ>
C232	87-018-205-089		CAP,TC-U 0.022-25 F<EZ>
C236	87-016-148-089		CAP,E 47-50 KME<EXCEPT U>
C236	87-010-408-089		CAP,E 47-50 SME<U>
C237	87-010-197-089		C-CAP,S 0.01-25 B<EZ>
C238	87-010-197-089		C-CAP,S 0.01-25 B<EZ>
C243	87-010-154-089		C-CAP,S 10P-50CH<EXCEPT EZ>
C243	87-010-314-089		C-CAP,S 22P-50 CH<EZ>
C244	87-018-147-089		CAP,TC-U 10P-50CH<EXCEPT EZ>
C244	87-018-109-089		CAP,TC-U 22P-50 SL<EZ>
C245	87-010-194-089		C-CAP,S 0.047-25 F
C247	87-010-186-089		C-CAP,S 4700P-50 B
C248	87-010-186-089		C-CAP,S 4700P-50 B
C251	87-010-196-089		C-CAP,S 0.1-25 F
C252	87-018-209-089		CAP,TC-U 0.1-50 F
C253	87-010-196-089		C-CAP,S 0.1-25 F<EZ>
C313	87-010-198-089		C-CAP,S 0.022-25 B
C315	87-010-374-089		CAP,E 47-10
C316	87-010-374-089		CAP,E 47-10
C351	87-012-154-089		C-CAP,S 150P-50 CH
C352	87-012-154-089		C-CAP,S 150P-50 CH
C353	87-012-140-089		C-CAP,S 470P-50 CH
C354	87-012-140-089		C-CAP,S 470P-50 CH
C355	87-012-154-089		C-CAP,S 150P-50 CH
C356	87-012-154-089		C-CAP,S 150P-50 CH
C357	87-010-189-089		C-CAP,S 8200P-50 B
C358	87-010-189-089		C-CAP,S 8200P-50 B
C361	87-010-197-089		C-CAP,S 0.01-25 B
C362	87-010-197-089		C-CAP,S 0.01-25 B
C403	87-012-154-089		C-CAP,S 150P-50 CH
C404	87-012-154-089		C-CAP,S 150P-50 CH
C405	87-012-140-089		C-CAP,S 470P-50 CH
C406	87-012-140-089		C-CAP,S 470P-50 CH
C407	87-015-826-089		C-CAP,1200-50 BK
C408	87-010-179-089		C-CAP,S 1200P-50 B
C409	87-010-213-089		C-CAP,S 0.015-50 B
C410	87-010-213-089		C-CAP,S 0.015-50 B
C411	87-010-178-089		C-CAP,S 1000P-50 B
C412	87-010-178-089		C-CAP,S 1000P-50 B
C413	87-010-402-089		CAP,E 2.2-50 SME
C414	87-010-402-089		CAP,E 2.2-50 SME
C415	87-010-404-089		CAP,E 4.7-50 SME
C416	87-010-404-089		CAP,E 4.7-50 SME
C451	87-012-156-089		C-CAP,S 220P-50 CH
C452	87-012-156-089		C-CAP,S 220P-50 CH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C453	87-010-178-089		C-CAP,S 1000P-50 B
C454	87-010-178-089		C-CAP,S 1000P-50 B<EZ>
C454	87-010-177-089		C-CAP,S 820P-50SL<EXCEPT EZ>
C455	87-010-178-089		C-CAP,S 1000P-50 B<EZ>
C455	87-010-177-089		C-CAP,S 820P-50SL<EXCEPT EZ>
C456	87-010-260-089		CAP,E 47-25 SME
C457	87-010-197-089		C-CAP,S 0.01-25 B
C458	87-010-183-089		C-CAP,S 2700P-50 B
C459	87-010-183-089		C-CAP,S 2700P-50 B
C460	87-010-183-089		C-CAP,S 2700P-50 B
C470	87-010-196-089		C-CAP,S 0.1-25 F
C509	87-010-371-089		CAP,E 470-6.3
C521	87-010-198-089		C-CAP,S 0.022-25 B
C522	87-010-312-089		C-CAP,S 15P-50 CH
C523	87-010-197-089		C-CAP,S 0.01-25 B
C524	87-010-402-089		CAP,E 2.2-50 SME
C526	87-010-545-089		CAP,E 0.22-50 SME
C530	87-018-208-089		CAP,TC-U 0.047-50 F
C532	87-010-260-089		CAP,E 47-25 SME
C533	87-010-404-089		CAP,E 4.7-50 SME
C534	87-010-404-089		CAP,E 4.7-50 SME
C535	87-010-404-089		CAP,E 4.7-50 SME
C536	87-010-404-089		CAP,E 4.7-50 SME
C537	87-010-196-089		C-CAP,S 0.1-25 F
C538	87-010-384-089		CAP,E 100-25 SME
C540	87-010-196-089		C-CAP,S 0.1-25 F
C541	87-010-196-089		C-CAP,S 0.1-25 F
C543	87-010-546-089		CAP,E 0.33-50 SME
C544	87-010-546-089		CAP,E 0.33-50 SME
C545	87-010-400-089		CAP,E 0.47-50 SME
C546	87-010-400-089		CAP,E 0.47-50 SME
C549	87-010-186-089		C-CAP,S 4700P-50 B
C550	87-010-186-089		C-CAP,S 4700P-50 B
C601	87-010-404-089		CAP,E 4.7-50 SME
C602	87-010-404-089		CAP,E 4.7-50 SME
C603	87-010-260-089		CAP,E 47-25 SME
C604	87-010-263-089		CAP,E 100-10 SME 5X11
C605	87-010-196-089		C-CAP,S 0.1-25 F
C606	87-010-196-089		C-CAP,S 0.1-25 F
C607	87-010-196-089		C-CAP,S 0.1-25 F
C608	87-010-196-089		C-CAP,S 0.1-25 F
C609	87-010-176-089		C-CAP,S 680P-50 SL
C610	87-010-176-089		C-CAP,S 680P-50 SL
C611	87-010-403-089		CAP,E 3.3-50 SME
C612	87-012-141-089		C-CAP,S 0.22-16 F
C613	87-010-382-089		CAP,E 22-25 SME
C614	87-010-263-089		CAP,E 100-10 SME 5X11
C615	87-010-198-089		C-CAP,S 0.022-25 B
C616	87-010-322-089		C-CAP,S 100P-50 CH
C682	87-010-370-089		CAP,E 330-6.3 SME
C683	87-010-197-089		C-CAP,S 0.01-25 B
C684	87-010-197-089		C-CAP,S 0.01-25 B
C685	87-012-158-089		C-CAP,S 390P-50 CH
C686	87-012-158-089		C-CAP,S 390P-50 CH
C687	87-010-401-089		CAP,E 1-50 SME
C688	87-010-401-089		CAP,E 1-50 SME
C696	87-010-384-089		CAP,E 100-25 SME
C700	87-010-196-089		C-CAP,S 0.1-25 F
C701	87-010-404-089		CAP,E 4.7-50 SME
C702	87-010-197-089		C-CAP,S 0.01-25 B
C703	87-010-197-089		C-CAP,S 0.01-25 B
C711	87-010-263-089		CAP,E 100-10 SME 5X11
C712	87-010-112-089		CAP,E 100-16
C720	87-015-785-089		C-CAP,0.1-25 F
C722	87-010-152-089		C-CAP,S 8P-50 CH
C723	87-010-178-089		C-CAP,S 1000P-50 B
C725	87-010-178-089		C-CAP,S 1000P-50 B
C727	87-010-197-089		C-CAP,S 0.01-25 B
C728	87-010-248-089		CAP,E 220-10 SME
C771	87-010-405-089		CAP,E 10-50 SME
C772	87-010-194-089		C-CAP,S 0.047-25 F
C773	87-010-196-089		C-CAP,S 0.1-25 F
C774	87-010-263-089		CAP,E 100-10 SME 5X11
C775	87-010-405-089		CAP,E 10-50 SME
C776	87-015-819-089		CHIP CAP 0.01
C777	87-010-400-089		CAP,E 0.47-50 SME
C778	87-010-401-089		CAP,E 1-50 SME
C779	87-010-401-089		CAP,E 1-50 SME
C780	87-010-197-089		C-CAP,S 0.01-25 B
C781	87-010-401-089		CAP,E 1-50 SME
C782	87-010-401-089		CAP,E 1-50 SME
C785	87-012-365-089		C-CAP,S 0.027-25 BK<EXCEPT U,LH>
C785	87-010-427-089		C-CAP,S 0.039-25 F<U,LH>
C786	87-012-365-089		C-CAP,S 0.027-25 BK<EXCEPT U,LH>
C786	87-010-427-089		C-CAP,S 0.039-25 F<U,LH>
C787	87-010-186-089		C-CAP,S 4700P-50 B<U,LH>
C788	87-010-186-089		C-CAP,S 4700P-50 B<U,LH>
C791	87-010-401-089		CAP,E 1-50 SME
C792	87-010-180-089		C-CAP,S 1500P-50B<EXCEPT EZ>
C792	87-010-182-089		C-CAP,S 2200P-50 B<EZ>
C793	87-010-189-089		C-CAP,S 8200P-50 B
C794	87-010-260-089		CAP,E 47-25 SME
C795	87-010-194-089		C-CAP,S 0.047-25 F
C796	87-010-403-089		CAP,E 3.3-50 SME
C797	87-010-405-089		CAP,E 10-50 SME
C798	87-010-196-089		C-CAP,S 0.1-25 F
C799	87-015-785-089		C-CAP,0.1-25 F
C814	87-010-197-089		C-CAP,S 0.01-25 B
C816	87-010-196-089		C-CAP,S 0.1-25 F
C819	87-010-196-089		C-CAP,S 0.1-25 F
C820	87-010-260-089		CAP,E 47-25 SME
C821	87-010-197-089		C-CAP,S 0.01-25 B
C823	87-010-197-089		C-CAP,S 0.01-25 B
C826	87-010-197-089		C-CAP,S 0.01-25 B
C827	87-018-134-089		CAP,TC-U 0.01-16 Y<EZ>
C840	87-010-197-089		C-CAP,S 0.01-25 B
C850	87-010-197-089		C-CAP,S 0.01-25 B
C851	87-018-209-089		CAP,TC-U 0.1-50 F
C941	87-010-197-089		C-CAP,S 0.01-25 B<EZ>
C942	87-010-311-089		C-CAP,S 12P-50 CH<EZ>
C944	87-010-154-089		C-CAP,S 10P-50 CH<EZ>
C944	87-010-311-089		C-CAP,S 12P-50 CH<EXCEPT EZ>
C945	87-014-050-089		CAP,PP 510P-100 J<EZ>
C946	87-010-401-089		CAP,E 1-50 SME
C947	87-010-197-089		C-CAP,S 0.01-25 B
C948	87-010-401-089		CAP,E 1-50 SME
C949	87-010-196-089		C-CAP,S 0.1-25 F<EZ>
C983	87-010-544-089		CAP,E 0.1-50
C990	87-018-134-089		CAP,TC-U 0.01-16 Y
C991	87-010-401-089		CAP,E 1-50 SME
CF801	87-008-423-019		CF,SFE10.7 MS3G-A<EZ>
CF801	87-008-261-019		FLTR,SFE10.7MA5-A<EXCEPT EZ>
CF802	82-785-747-019		CF,MS2 GHY R<EZ>
CF802	87-008-261-019		FLTR,SFE10.7MA5-A<EXCEPT EZ>
FFE801	85-NF5-605-019		FE PACK 2 EX<EXCEPT EZ>
FFE801	85-NF5-604-019		FE PACK 4(AL)<EZ>
J250	87-099-881-019		JACK,DIA3.5 STS(2.5)
J251	87-009-549-019		JACK,DIA 3.5
J253	87-099-491-019		JACK,PIN 2P
J254	87-033-227-019		TERMINAL,SP 4P R(Z)
J801	87-033-241-019		TERMINAL,ANT AJ-2039<EZ>
J801	87-033-235-019		TERMINAL,ANT(H)<EXCEPT EZ>
L231	87-005-366-019		COIL,1UH<EZ>
L232	87-005-366-019		COIL,1UH<EZ>
L401	82-231-622-089		COIL,22MH-J
L402	82-231-622-089		COIL,22MH-J
L451	87-007-336-019		COIL,OSC 85K BIAS
L741	87-006-321-019		COIL,FM DET SAG
L742	82-NT1-659-019		FLTR,CFAZ-450 2NT
L770	87-003-102-089		COIL,10UH

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L832	87-003-098-089		COIL,2.2UH
L941	87-006-208-019		COIL,ANT LW<EZ>
L942	87-007-305-019		COIL,OSC LW S<EZ>
L981	82-NT3-632-019		AM PACK 1,SAG<EXCEPT EZ>
L981	81-MX4-619-019		AM PACK 4<EZ>
R105	87-022-050-089		RESIS,METAL 1W-0.22J
R106	87-022-050-089		RESIS,METAL 1W-0.22J
R591	87-010-312-089		C-CAP,S 15P-50 CH<EZ>
R592	87-010-312-089		C-CAP,S 15P-50 CH<EZ>
SFR451	87-024-175-089		SFR,47K DIA6 V
SFR452	87-024-175-089		SFR,47K DIA6 V
SFR722	87-024-171-089		SFR,4.7K DIA6 V
TC721	87-011-253-089		TRIMER,30P LAR
TC942	87-011-253-089		TRIMER,30P LAR<EZ>
W101	83-NEG-679-019		F-CABLE,5P-2.5
X703	84-508-618-019		VIB,CER CSB 456 F15
X721	87-030-372-019		VIB,XTAL 7.2MHZ
FRONT C.B			
C201	87-010-401-049		CAP,E 1-50 SME
C202	87-010-263-049		CAP,E 100-10
C203	87-010-370-049		CAP,E 330-6.3 SME
C204	87-010-196-089		C-CAP,S 0.1-25 F
C205	87-010-401-049		CAP,E 1-50 SME
C206	87-010-196-089		C-CAP,S 0.1-25 F
C207	87-010-178-089		C-CAP,S 1000P-50 B
C208	87-010-075-049		CAP,E 10-16 5L
C209	87-010-246-049		CAP,E 47-35 SME
C210	87-015-688-049		CAP,E 4.7-35 7L
C211	87-015-688-049		CAP,E 4.7-35 7L
C212	87-010-196-089		C-CAP,S 0.1-25 F
C213	87-010-314-089		C-CAP,S 22P-50 CH
C214	87-010-317-089		C-CAP,S 39P-50 CH
C215	87-010-317-089		C-CAP,S 39P-50 CH
C216	87-015-785-089		C-CAP,0.1-25 F
C401	87-010-196-089		C-CAP,S 0.1-25 F
C403	87-010-196-089		C-CAP,S 0.1-25 F
C501	87-010-248-049		CAP,E 220-10 SME
C502	87-010-405-049		CAP,E 10-50 SME<HE,HR>
C502	87-018-209-089		CAP,TC-U 0.1-50 F<EZ>
C503	87-010-545-049		CAP E 0.22-50 SME<HE,HR>
C503	87-010-544-049		CAP,E 0.1-50 SME<U,LH,EZ>
C505	87-010-405-049		CAP,E 10-50 SME
C506	87-012-145-089		C-CAP,S 270P-50CH
C508	87-012-155-089		C-CAP,S 180P-50 CH
C509	87-010-183-089		C-CAP,S 2700P-50 B
C510	87-010-374-049		CAP,E 47-10
C511	87-018-209-089		CAP,TC-U 0.1-50 F
C513	87-010-178-089		C-CAP,S 1000P-50 B
C514	87-010-176-089		C-CAP,S 680P-50 SL
C515	87-010-178-089		C-CAP,S 1000P-50 B
C530	87-010-196-089		C-CAP,S 0.1-25 F<HE,HR>
C531	87-010-196-089		C-CAP,S 0.1-25 F
C701	87-012-142-089		C-CAP,S 0.33-16 F
C702	87-015-695-049		CAP,E 1-50 7L<HE,HR>
C703	87-015-785-089		C-CAP,0.1-25 F<HE,HR>
C704	87-010-188-089		C-CAP,S 6800P-50 B<HE,HR>
C705	87-010-177-089		C-CAP,S 820P-50 SL<HE,HR>
C706	87-010-196-089		C-CAP,S 0.1-25 F<HE,HR>
C707	87-010-260-049		CAP,E 47-25 SME<HE,HR>
C710	87-010-196-089		C-CAP,S 0.1-25 F<HE,HR>
C711	87-010-188-089		C-CAP,S 6800P-50 B<HE,HR>
C712	87-010-184-089		C-CAP,S 3300P-50 B<HE,HR>
C713	87-010-196-089		C-CAP,S 0.1-25 F<HE,HR>
C714	87-012-140-089		C-CAP,S 470P-50 CH<HE,HR>
C715	87-012-140-089		C-CAP,S 470P-50 CH<HE,HR>
C716	87-010-374-049		CAP,E 47-10<HE,HR>
C717	87-010-198-089		C-CAP,S 0.022-25 B<HE,HR>
C718	87-010-263-049		CAP,E 100-10<HE,HR>

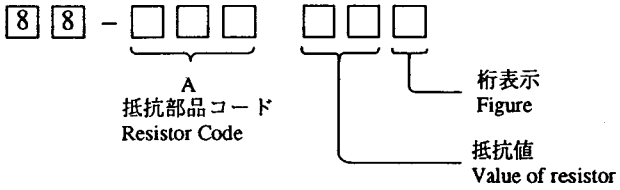
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C801	87-010-384-049		CAP,E 100-25 SME
CON105	88-802-091-529		CONN ASSY,9P
FB100	87-008-372-089		FLTR,EMI BL 01RN1
FL101	85-CF5-650-019		FL,BT-179GK
FT103	88-918-451-219		FF-CABLE,18P 1.25
FT104	88-907-281-119		FF-CABLE,7P 1.25
J501	82-NF7-630-019		JACK,3.5 MO
L701	87-005-456-089		COIL,1000UH FLR50 K<HE,HR>
LED402	87-017-368-080		LED,SEL4514C TP5
LED403	87-017-368-080		LED,SEL4514C TP5
LED404	87-070-431-080		LED,SEL4214R TP5
LED405	87-017-368-080		LED,SEL4514C TP5
LED406	87-017-368-080		LED,SEL4514C TP5
LED407	87-070-431-080		LED,SEL4214R TP5
LED408	87-017-368-080		LED,SEL4514C TP5
LED409	87-017-368-080		LED,SEL4514C TP5
LED410	87-070-431-080		LED,SEL4214R TP5
LED411	87-017-368-080		LED,SEL4514C TP5
LED412	87-017-368-080		LED,SEL4514C TP5
LED413	87-070-431-080		LED,SEL4214R TP5
LED414	87-070-198-089		LED,SLP736A-81-S-T1
LED415	87-070-198-089		LED,SLP736A-81-S-T1
LED416	87-070-198-089		LED,SLP736A-81-S-T1
LED417	87-070-198-089		LED,SLP736A-81-S-T1
LED418	87-070-198-089		LED,SLP736A-81-S-T1
LED419	87-070-198-089		LED,SLP736A-81-S-T1
S301	87-036-397-089		SW,TACT SKQNAB
S302	87-036-397-089		SW,TACT SKQNAB
S303	87-036-397-089		SW,TACT SKQNAB
S304	87-036-397-089		SW,TACT SKQNAB
S305	87-036-397-089		SW,TACT SKQNAB
S306	87-036-397-089		SW,TACT SKQNAB
S307	87-036-397-089		SW,TACT SKQNAB
S308	87-036-397-089		SW,TACT SKQNAB
S309	87-036-397-089		SW,TACT SKQNAB
S310	87-036-397-089		SW,TACT SKQNAB
S311	87-036-397-089		SW,TACT SKQNAB
S312	87-036-397-089		SW,TACT SKQNAB
S316	87-036-397-089		SW,TACT SKQNAB
S317	87-036-397-089		SW,TACT SKQNAB
S318	87-036-397-089		SW,TACT SKQNAB
S319	87-036-397-089		SW,TACT SKQNAB
S320	87-036-397-089		SW,TACT SKQNAB
S321	87-036-397-089		SW,TACT SKQNAB
VR501	85-CF5-661-019		VR,20KA RK11K1130
VR502	85-CF5-662-019		VR,20KB RK11K1130<HE,HR>
X201	87-030-375-089		VIB,CF4.19MG200
CD C.B			
C1	87-010-148-089		C-CAP,S 4P-50 CH
C3	87-010-401-089		CAP,E 1-50 SME
C6	87-010-405-089		CAP,E 10-50 SME
C7	87-010-188-089		C-CAP,S 6800P-50 B
C8	87-010-401-089		CAP,E 1-50 SME
C9	87-010-406-089		CAP,E 22-50 SME
C10	87-010-403-089		CAP,E 3.3-50 SME
C13	87-010-401-089		CAP,E 1-50 SME
C16	87-010-318-089		C-CAP,S 47P-50 CH
C18	87-010-263-089		CAP,E 100-10 SME 5X11
C19	87-018-134-089		CAP,TC-U 0.01-16 Y
C20	87-010-263-089		CAP,E 100-10 SME 5X11
C21	87-010-197-089		C-CAP,S 0.01-25 B
C22	87-010-263-089		CAP,E 100-10 SME 5X11
C23	87-010-263-089		CAP,E 100-10 SME 5X11
C24	87-010-263-089		CAP,E 100-10 SME 5X11
C25	87-010-197-089		C-CAP,S 0.01-25 B
C26	87-010-263-089		CAP,E 100-10 SME 5X11
C51	87-010-196-089		C-CAP,S 0.1-25 F
C52	87-010-196-089		C-CAP,S 0.1-25 F

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C53	87-010-196-089		C-CAP,S 0.1-25 F
C54	87-010-196-089		C-CAP,S 0.1-25 F
C57	87-010-197-089		C-CAP,S 0.01-25 B
C58	87-010-221-089		CAP,E 470-10
C59	87-010-263-089		CAP,E 100-10 SME 5X11
C60	87-010-197-089		C-CAP,S 0.01-25 B
C61	87-010-263-089		CAP,E 100-10 SME 5X11
C101	87-010-178-089		C-CAP,S 1000P-50 B
C102	87-010-186-089		C-CAP,S 4700P-50 B
C105	87-018-119-089		CAP,TC-U 100P-50 B
C106	87-010-197-089		C-CAP,S 0.01-25 B
C107	87-010-197-089		C-CAP,S 0.01-25 B
C109	87-010-314-089		C-CAP,S 22P-50 CH
C110	87-010-314-089		C-CAP,S 22P-50 CH
C111	87-010-197-089		C-CAP,S 0.01-25 B
C112	87-015-819-089		CHIP CAP 0.01
C113	87-010-263-089		CAP,E 100-10 SME 5X11
C114	87-018-134-089		CAP,TC-U 0.01-16 Y
C115	87-010-263-089		CAP,E 100-10 SME 5X11
C116	87-010-404-089		CAP,E 4.7-50 SME
C117	87-018-209-089		CAP,TC-U 0.1-50 F
C121	87-010-263-089		CAP,E 100-10 SME 5X11
C201	87-012-153-089		C-CAP,S 120P-50 CH
C202	87-012-153-089		C-CAP,S 120P-50 CH
C203	87-012-153-089		C-CAP,S 120P-50 CH
C204	87-012-153-089		C-CAP,S 120P-50 CH
C205	87-012-153-089		C-CAP,S 120P-50 CH
C206	87-012-153-089		C-CAP,S 120P-50 CH
C207	87-012-153-089		C-CAP,S 120P-50 CH
C208	87-012-153-089		C-CAP,S 120P-50 CH
C209	87-012-153-089		C-CAP,S 120P-50 CH
C210	87-012-153-089		C-CAP,S 120P-50 CH
C211	87-010-401-089		CAP,E 1-50 SME
C212	87-010-401-089		CAP,E 1-50 SME
C213	87-010-186-089		C-CAP,S 4700P-50 B
C214	87-010-186-089		C-CAP,S 4700P-50 B
C251	87-010-101-089		CAP,E 220-16 SME
C252	87-010-263-089		CAP,E 100-10 SME 5X11
C301	87-018-119-089		CAP,TC-U 100P-50 B
C302	87-018-119-089		CAP,TC-U 100P-50 B
C303	87-018-119-089		CAP,TC-U 100P-50 B
C304	87-018-119-089		CAP,TC-U 100P-50 B
C305	87-018-119-089		CAP,TC-U 100P-50 B
C306	87-018-119-089		CAP,TC-U 100P-50 B
C351	87-010-384-089		CAP,E 100-25 SME
C352	87-010-197-089		C-CAP,S 0.01-25 B
C353	87-010-197-089		C-CAP,S 0.01-25 B
C354	87-010-197-089		C-CAP,S 0.01-25 B
C402	87-010-197-089		C-CAP,S 0.01-25 B
C403	87-010-404-089		CAP,E 4.7-50 SME
C404	87-010-248-089		CAP,E 220-10 SME
C406	87-010-263-089		CAP,E 100-10 SME 5X11
CON5	88-802-081-699		CONN ASSY,8P
CON51	88-802-081-429		CONN ASSY,8P
FT101	88-906-201-119		FF-CABLE,6P 1.25
FT102	88-914-141-119		FF-CABLE,14P 1.25
L1	87-003-102-089		COIL,10UH
SFR1	87-024-172-089		SFR,10K DIA6 V
SFR2	87-024-176-089		SFR,100K DIA6 V
SFR3	87-024-176-089		SFR,100K DIA6 V
SFR4	87-024-176-089		SFR,100K DIA6 V
X101	87-030-221-089		CERALOCK 16.93MHZ
KEY C.B			
C402	87-010-196-089		C-CAP,S 0.1-25 F
LED420	87-070-432-080		LED,SEL4414G TP5
LED421	87-070-432-080		LED,SEL4414G TP5
LED422	87-070-432-080		LED,SEL4414G TP5
LED423	87-070-432-080		LED,SEL4414G TP5
LED424	87-070-432-080		LED,SEL4414G TP5
LED425	87-070-432-080		LED,SEL4414G TP5
LED426	87-070-432-080		LED,SEL4414G TP5
S322	87-036-397-089		SW,TACT SKQNAB
S323	87-036-397-089		SW,TACT SKQNAB
S324	87-036-397-089		SW,TACT SKQNAB
S325	87-036-397-089		SW,TACT SKQNAB
S326	87-036-397-089		SW,TACT SKQNAB
S327	87-036-397-089		SW,TACT SKQNAB
S328	87-036-397-089		SW,TACT SKQNAB
S329	87-036-397-089		SW,TACT SKQNAB
S330	87-036-397-089		SW,TACT SKQNAB
LED-1 C.B			
D901	87-070-129-080		LED,SEL1450CEM
D902	87-017-733-080		LED,SEL1250SM
D903	87-017-733-080		LED,SEL1250SM
D904	87-070-129-080		LED,SEL1450CEM
AC C.B			
PT C.B			
⚠	82-304-743-019		TERMINAL,1P
⚠	87-033-213-089		CLAMP FUSE SMK
⚠ F901	87-035-362-019		FUSE,1A 250V TE<LH,HE,HR>
⚠ F901	87-035-359-019		FUSE,500MA 250V TE<EZ>
⚠ F901	87-035-411-019		FUSE,T1A 250V UL<U>
⚠ PT101	85-CF5-648-019		PT,5CF-5 E<EZ>
⚠ PT101	85-CF5-647-019		PT,5CF-5 HR<HR>
⚠ PT101	85-CF5-646-019		PT,5CF-5 HU<U,LH,HE>
⚠ SW901	87-036-235-019		SW,SL ESD 269<LH,HE,HR>
DECK C.B			
SFR1	87-024-581-010		SFR,3.3K DIA 6H KOA
SOL2	82-ZM1-618-310		SOL ASSY,27
SW2	87-036-110-010		SW,PUSH SPPB 62
SW3	87-036-110-010		SW,PUSH SPPB 62
SW4	87-036-110-010		SW,PUSH SPPB 62
SW5	87-036-110-010		SW,PUSH SPPB 62
SW6	87-036-110-010		SW,PUSH SPPB 62
RELAY C.B			
CON151	85-CF5-660-019		CONN ASSY,8P-RPB
MOTOR-1 C.B			
M20	9X-262-513-210		SLED MOTOR ASSY
M21	9X-262-513-210		SPINDLE MOTOR ASSY
PIN105	91-564-722-110		CONNECTOR 6P
SW1	91-572-085-110		LEAF SW
MOTOR C.B			
C11	87-016-271-080		CAP,E 22-16 BP
M11	87-045-383-010		MOT,M9I T2
CONNECTOR C.B			
C1	87-016-271-080		CAP,E 22-16 BP
C2	87-016-271-080		CAP,E 22-16 BP
M1	87-045-383-010		MOT,M9I T2
M2	87-045-383-010		MOT,M9I T2
SW1	87-036-109-010		SW,PUSH SPPB 61
SW2	87-036-109-010		SW,PUSH SPPB 61
SW3	87-036-252-010		SW,PUSH SPPB 51
W1	84-ZG2-610-010		F-CABLE 2.0-2P L=150

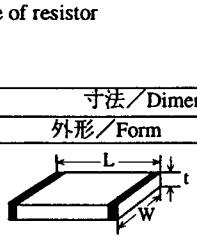
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
SENSOR C.B			
W2	84-ZG2-612-010		CABLE,FFC 4P L=225
LED C.B			
LED41	83-XA2-672-010		LED,SID1010CM
LED42	83-XA2-672-010		LED,SID1010CM
PH C.B			
PH21	87-026-573-010		P-SNSR,GP1S53V

○ チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm) 外形／Form	L	W	t	抵抗コード ：A Resistor Code: A
1／16W	1608	±5%	CJ		1.6	0.8	0.45	108
1／10W	2125	±5%	CJ		2	1.25	0.45	118
1／8W	3216	±5%	CJ		3.2	1.6	0.55	128

IC DESCRIPTION

IC, TC9284BF

Pin No.	Pin Name	I/O	Description
1	GNDA	–	Analog ground terminal for D/A converter (Right channel).
2	RO	O	Right channel data forward output terminal.
3	$\overline{RO}$	O	Right channel data reverse output terminal.
4	VDA	–	Analog power supply terminal for D/A converter (+5V).
5	$\overline{LO}$	O	Left channel data reverse output terminal.
6	LO	O	Left channel data forward output terminal.
7	GNDA	–	Analog ground terminal for D/A converter (Left channel).
8	$\overline{TEST3}$	I	Test terminal. Normally, keep at "H" level or open.
9	$\overline{TEST4}$		
10	$\overline{TEST5}$		
11	SBOK	O	Subcode Q data CRC check adjusting result output terminal. The adjusting result is OK at "H" level. (Not used)
12	VDDD	–	Digital supply voltage terminal (+5V).
13	GNDD	–	Digital ground terminal.
14 ~ 17	BUS0 ~ BUS3	I / O	Command and data sending / receiving input / output terminals.
18	$\overline{CCE}$	I	Command and data sending / receiving chip enable signal input terminal. The bus line becomes active at "L" level.
19	BUCK	I	Command and data sending / receiving clock input terminal.
20	PFCK	O	Regeneration system frame periodic signal output terminal (7.35kHz). (Not used)
21	$\overline{RST}$	I	Reset input terminal. The internal system is reset at "L" level.
22	SUBSYC	O	Subcode sync signal output terminal. (Not used)
23	SUBD	O	Subcode P ~ W output terminals. (Not used)
24	CLCK	I	Subcode P ~ W data readout clock input terminal.
25	VDDD	–	Digital supply voltage terminal (+5V).
26	GNDD	–	Digital ground terminal.
27	DFCT	O	Defect detection signal output terminal. VREF when defect is detected. Normally, HiZ. (Not used)
28	TEL2	O	Tracking gain adjusting analog switch output terminals. VREF or HiZ.
29	TEL1		
30	TGUL	O	Tracking servo loop low frequency phase compensator change-over analog switch output terminal. HiZ (gain up) when detecting shock. Normally, VREF.
31	TGUH2	O	Tracking servo loop middle / high frequency phase compensator change-over analog switch output terminals. HiZ (gain up) when detecting shock. Normally, VREF. TGUH1 is used at normal regeneration and TGUH2 is used at double speed regeneration.
32	TGUH1		
33	TKIC	O	Tracking actuator kick signal output terminal. Kicks in the outer circumferential direction at "H" level and in the inner circumferential direction at "L" level.
34	FMON	O	Feed servo ON / OFF analog switch output terminals. Servo on at "HiZ" and off at "VREF".
35	$\overline{TEST1}$	I	Test terminal. Normally, keep at "H" level or open.

Pin No.	Pin Name	I/O	Description
36	FMFB	O	Feed motor FWD / BWD feeding control signal output terminal. Feed in the outer circumferential direction at "H" level and in the inner circumferential direction at "L" level.
37	$\overline{TEST}$	I	Test terminal. Normally, keep at "H" level or open. (Not used)
38	DMON	O	Disc motor driving circuit gain change-over analog switch output terminal.
39	DMFO	O	Disc motor CLV servo AFC signal output terminal.

COMMAND	DMFC OUTPUT	OPERATION
DMFK	H	Motor acceleration
DMSV	PWM	CLV servo ON
DMBK	L	Motor deceleration
DMOFF	VREF	CLV servo OFF

40	DMPC	O	Disc motor CLV servo APC signal output terminal.
41	2VREF	I	Double times reference voltage input terminal (VREF X 2).
42	SEL	O	Servo mode indicating signal output terminal.

SEL	LD ON / OFF	FOCUS SERVO	OPERATION
L	OFF	OFF	LD OFF
HiZ	ON	OFF	Focus Search
H	ON	ON	Normal play etc. Focus Servo ON: FOK

43	FCSI	O	Focus actuator driving signal output terminal in the focus search mode.

COMMAND	FCSI OUTPUT	OPERATION
FORST	H	Lens gets far away from disc
FOSET	L	Lens gets near disc
Others	HiZ	Other than focus search

44	FKIC	O	Focus actuator driving signal output terminal in the focus gain adjusting mode.

COMMAND	FKIC OUTPUT	OPERATION
FGASR	H	Lens gets far away from disc
FGASS	L	Lens gets near disc
Others	HiZ	Other than focus adjustment

45	FEL2	O	Focus gain adjusting analog switch output terminals. (Not used)
46	FEL1		
47	FEI	I	Focus error signal input terminal.
48	TESH	I	Tracking error signal input sample holding analog switch input terminal.
49	TEOF	O	Tracking servo operation ON / OFF analog switch output terminal. VREF when the tracking servo is OFF.
50	SBAD	I	Sub-beam adding signal input terminal.
51	RFRP	I	RF ripple signal input terminal.
52	VREF	I	Reference voltage input terminal (+2.1V).
53	RFI	I	RF signal input terminal.
54	GNDA	–	Analog ground terminal.
55	DTSC2	O	Data slice control EFM signal passive output terminal.

Pin No.	Pin Name	I/O	Description
56	MONIT	O	Internal signal (EFMO, PLCK, LOCK and MBOV) output terminal. Selected by command. (Not used)
57	DTSC1	O	Data slice control EFM signal negative output terminal.
58	VDDA	–	Analog supply voltage terminal (+5V).
59	PDCNT	I	PDO output control terminal. At "L" level, PDO output is made to HiZ by force.
60	PDO	O	Phase error signal output terminal between EFM signal and PLCK.
61	TMAX	O	TMAX signal output terminal. HiZ at time of system clock. TMAX PERIOD / TMAX OUTPUT Longer than specified period / L Shorter than specified period / H (2VREF) Specified period / HiZ
62	LPFN	I	LPF amplifier inverting input terminal for PLL.
63	LPFO	O	LPF amplifier output terminal for PLL.
64	VCOF	I	VCO filter terminal.
65	TESTX	I	Test terminal. (Connected to GNDD)
66	$\overline{HS}$	O	Double speed monitor output terminal. Double speed operation at "L" level. (Not used)
67	GNDD	–	Digital ground terminal.
68	SPDA	O	Processor status signal output terminal. Correction process judging result, memory buffer capacity, etc. (Not used)
69	COFS	O	Correction system frame periodic signal output terminal (7.35kHz). (Not used)
70	WDCK	O	Word clock output terminal. Normally, 88.2kHz. (Not used)
71	CHCK	O	Channel clock output terminal. Normally, 44.1kHz. (Not used)
72	BCK	O	Bit clock output terminal. Normally, 1.4112MHz. (Not used)
73	AOUT	O	Audio data output terminal. (Not used)
74	EMPH	O	Emphasis ON / OFF indication signal output terminal. Emphasis ON at "H" level. (Not used)
75	DOUT	O	Digital out output terminal. (Not used)
76	$\overline{TEST2}$	I	Test terminal. Normally, keep at "H" level or open.
77	VDDX	O	Oscillator supply voltage terminal (+5V).
78	XI	I	Crystal oscillator connecting terminal.
79	XO	O	
80	GNDX	O	Oscillator ground terminal.

NOTE : HiZ = High Impedance

IC, TA2065F

Pin No.	Pin Name	I/O	Description
1	RFO	O	RF amplifer (RF AMP) output terminal.
2	RFI	I	RF ripple signal generating circuit input terminal.
3	VRO	O	VR amplifier output terminal.
4	2VRO	O	2VR amplifier output terminal.
5	RFRP	O	RF ripple signal output terminal.
6	SBAD	O	Defects detection signal output terminal.
7	DFIN	I	Defects detecting comparator positive phase input terminal. (Connected to SBAD)
8	FEP	I	Focus error balance adjusting input terminal.
9	FEN	I	Focus error amplifier (FE AMP) negative phase input terminal.
10	FEO	O	Focus error amplifier (FE AMP) output terminal.
11	FEI	I	Focus output amplifier (FS AMP) positive phase input terminal.
12	FHLD	I	Hold switch terminal for defect.
13	FEL1	I	Focus gain adjusting terminal. (Not used)
14	FEL2		
15	FSN	I	Focus output amplifier (FS AMP) negative phase input terminal.
16	FSO	O	Focus output amplifier (FS AMP) output terminal.
17	COSC	O	Focus search signal generating capacitor connecting terminal.
18	OSCI	I	Focus search signal generating built-in current source control input terminal.
19	GND	–	Ground terminal.
20	VCC	–	Power source terminal (+5V).
21	SEL	I	Analog switch control signal input terminal.
22	DMEP	I	Disc motor amplifier (DM AMP) positive phase input terminal.
23	DMEN	I	Disc motor amplifier (DM AMP) negative phase input terminal.
24	DMEO	O	Disc motor amplifier (DM AMP) output terminal.
25	DFCT	I	Defect detecting comparator negative phase input terminal.
26	FMSO	O	Feed motor output amplifier (FMS AMP) output terminal.
27	FMSN	I	Feed motor output amplifier (FMS AMP) negative phase input terminal.
28	FMSP	I	Feed motor output amplifier (FMS AMP) positive phase input terminal.
29	THLD	I	Hold switch terminal for defect.
30	TS2O	O	Tracking servo amplifier 2 (TS2 AMP) output terminal.
31	TS2N	I	Tracking servo amplifier 2 (TS2 AMP) negative phase input terminal.
32	TS2P	I	Tracking servo amplifier 2 (TS2 AMP) positive phase input terminal.
33	TS1N	I	Tracking servo amplifier 1 (TS1 AMP) negative phase input terminal. (Not used)
34	TS1P	I	Tracking servo amplifier 1 (TS1 AMP) positive phase input terminal.
35	TSO	O	Tracking output amplifier (TS AMP) output terminal.
36	TEL1	I	Tracking gain adjusting terminal.
37	TEL2		
38	TSN	I	Tracking output amplifier (TS AMP) negative phase input terminal.
39	TPO	O	Sub-beam I-V amplifier output terminal.
40	TPI	I	Sub-beam I-V amplifier input terminal.
41	TNI		

Pin No.	Pin Name	I/O	Description
42	TNO	O	Sub-beam I-V amplifier output terminal.
43	FNI	I	Main-beam I-V amplifier input terminal.
44	FPI		
45	LDO	O	Laser diode amplifier output terminal.
46	MDI	I	Monitor photo diode amplifier input terminal.
47	RFN	I	RF amplifier negative phase input terminal.
48	RFT	I	RF amplifier peaking terminal.

IC, LC72131

Pin No.	Pin Name	I/O	Description
1	XIN	–	A crystal oscillator (7.2MHz) is connected between these pins.
22	XOUT		
2	NC	–	Not used.
3	CE	I	To enable the IC. Active "H".
4	DI	I	Digital data input from CPU (μPD78044BGF–015) when relevant key is operated. Active "H".
5	CLK	I	To clock in the data DI.
6	DO	O	Digital data output to CPU (μPD78044BGF–015).
7	TM-BASE	O	Outputs a reference clock signal (8Hz) for the clock.
8	$\overline{\text{MONO}}$ / BEAT	O	Outputs "H" when MONO / BEAT is switched.
9	$\overline{\text{FM}}$ / AM	O	Output "L" or "H" as follows: 2 BAND: AM H, FM L 3 BAND: LW H, MW H, FM L 3 BAND: MW H, SW L, FM L
10	$\overline{\text{MW}}$	O	Outputs "L" or "H" as follows: 2 BAND: AM L, FM L 3 BAND: LW H, MW L, FM L 3 BAND: MW L, SW H, FM L
11	IF-MUTE	O	To control internal counter.
12	IFIN	I	General purpose counter input.
13	$\overline{\text{TUNE}}$	I	Receives "L" when station is tuned.
14	NC	–	Not used.
15	AMIN	I	Receives the AM local oscillator frequency signal.
16	FMIN	I	Receives the FM local oscillator frequency signal.
17	VDD	–	Supply power to IC (+5V).
18	PD	O	PLL charge pump output.
19	AIN	I	Nch MOS transistor for PLL active low pass filter.
20	AOUT	O	
21	VSS	–	Ground.

IC, μPD78044BGF-015

Pin No.	Pin Name	I/O	Description
1 ~ 7	O-G7 ~ O-G1	O	FL display grid output.
8	VDD	–	Connected to +5.6V.
9	IO-BUS3	I / O	CD IC control data bus input / output.
10	IO-BUS2		
11	IO-BUS1		
12	IO-BUS0		
13	$\overline{\text{I-STEREO}}$ / $\overline{\text{O-CCE}}$	I / O	Tuner stereo detection input / CD IC control chip enable output.
14	I-$\overline{\text{TU}}$ / IFC / O-BUCK	I / O	Tuner / IF count data input / CD IC control data bus clock output.
15	O-PLLCE	O	PLL IC chip enable output.
16	$\overline{\text{I-HOLD}}$	I	Power-down detection input. Backup mode at "L" input.
17	$\overline{\text{RESET}}$	I	Reset input.
18	O-DATA (F / M)	O	Front main shift register / PLL data output.
19	O-CLK (F / M)	O	Front main shift register / PLL clock output.
20	AVSS	–	Connected to GND.
21	I-KEY1	I	Keys 1 AD input.
22	I-KEY2	I	Keys 2 AD input.
23	I-MIC	I	Mic level AD input for auto vocal fader.
24	I-MS	I	Cassette deck MS detection AD input.
25	I-CDSW1	I	CD mecha switch 1 AD input.
26	I-CDSW2	I	CD mecha switch 2 AD input.
27	I-DISC1	I	Disc sensor 1 AD input.
28	I-DISC2	I	Disc sensor 2 AD input.
29	AVDD	–	Connected to +5.6V.
30	AVREF		
31	I-TMBASE	I	Clock reference input (exclusive for 8MHz).
32	XT2	–	Sub-clock. (Not used)
33	VSS1	–	Connected to GND.
34	X1	–	4.19MHz oscillation circuit.
35	X2		
36	O-CSHIFT	O	Micro-computer clock shift output. (See table-1)
37	$\overline{\text{O-MOTOR}}$	O	Deck motor $\overline{\text{ON}}$ / OFF output.
38	$\overline{\text{O-SOL}}$	O	Deck plunger $\overline{\text{ON}}$ / OFF output.
39	O-STB	O	Shift register data latched strobe output.
40	$\overline{\text{O-POWER}}$	O	System power $\overline{\text{ON}}$ / OFF output.
41	O-MUTE	O	System mute ON / $\overline{\text{OFF}}$ output.
42	O-OPEN	O	CD tray open output.
43	O-CLOSE	O	CD tray close output.
44	O-CHACK DN	O	Disc chacking down output.
45	O-CHACK UP	O	Disc chacking up output.

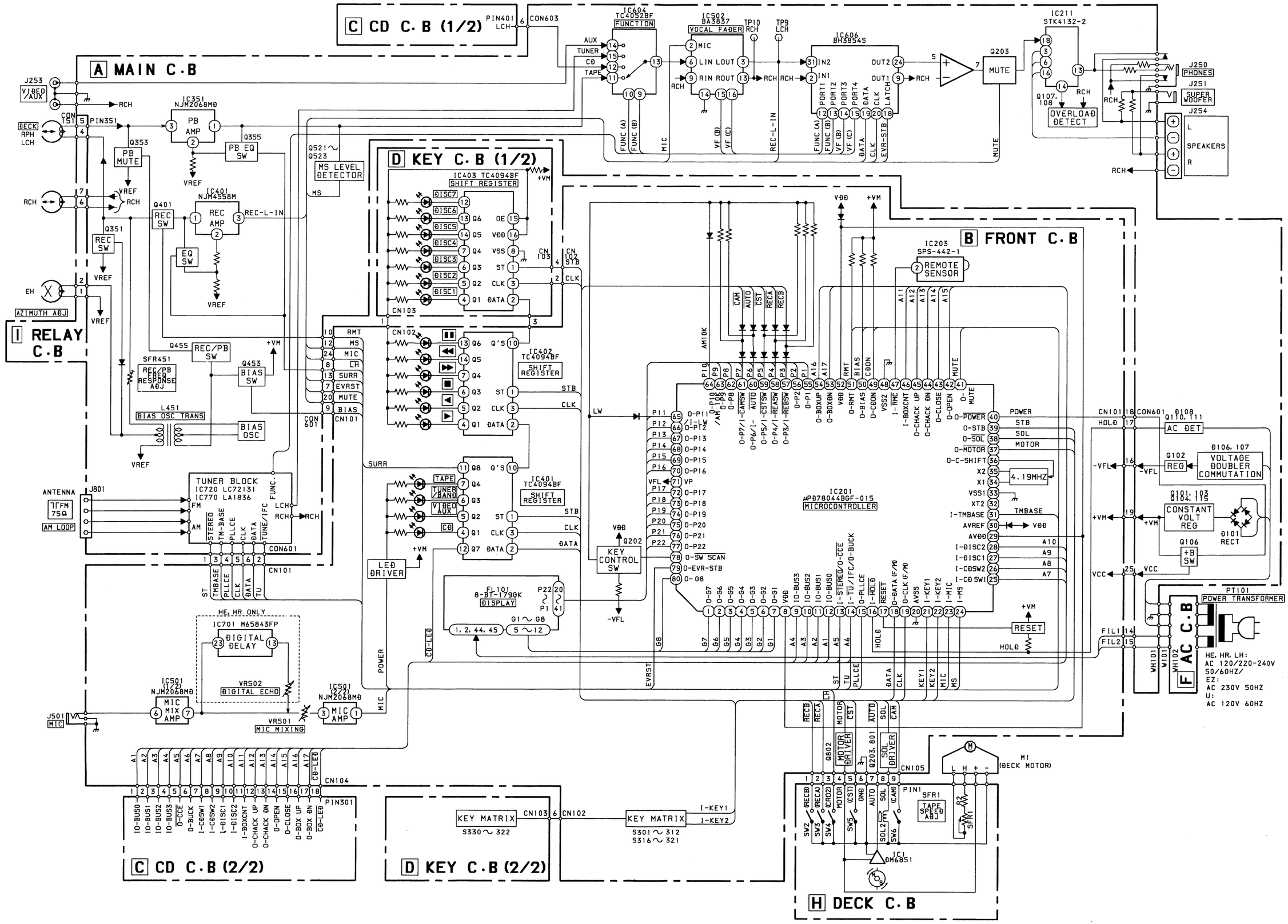
Pin No.	Pin Name	I/O	Description
46	I-BOXCNT	I	Disc box count input.
47	$\overline{\text{I-RMC}}$	I	System remote control input. Active "L".
48	VSS2	–	Connected to GND.
49	O-CDON	O	CD power ON / $\overline{\text{OFF}}$ output.
50	O-BIAS	O	Cassette deck bias ON / $\overline{\text{OFF}}$ output.
51	O-RMT	O	REC muting output. Active "H".
52	VDD	–	Connected to +5.6V.
53	O-BOX DN	O	Disc box motor down output.
54	O-BOX UP	O	Disc box motor up output.
55 ~ 56	O-P1 ~ O-P2	O	FL segment output P1 ~ P2.
57	O-P3 / $\overline{\text{I-REBSW}}$	O / I	FL segment output P3 / Deck B side recording permission switch input.
58	O-P4 / $\overline{\text{I-REASW}}$	O / I	FL segment output P4 / Deck A side recording permission switch input.
59	O-P5 / $\overline{\text{I- CST SW}}$	O / I	FL segment output P5 / Deck cassette detection switch input.
60	O-P6 / $\overline{\text{I-AUTO}}$	O / I	FL segment output P6 / Deck auto stop input.
61	O-P7 / $\overline{\text{I-CAM SW}}$	O / I	FL segment output P7 / Deck cam switch input.
62 ~ 63	O-P8 ~ O-P9	O	FL segment output P8 ~ P9.
64	O-P10 / I-AM10K	O / I	FL segment output P10 / MW 10kHz initial diode input.
65	O-P11 / I-LW	O / I	FL segment output P11 / LW support diode input.
66 ~ 70	O-P12 ~ O-P16	O	FL segment output P12 ~ P16.
71	VP	–	Connected to –22V.
72 ~ 77	O-P17 ~ O-P22	O	FL segment output P17 ~ P22.
78	$\overline{\text{O-SWSCAN}}$	O	Segment input permission output.
79	O-EVRSTB	O	Electronic volume data latch output.
80	O-G8	O	FL display grid output.

Table-1

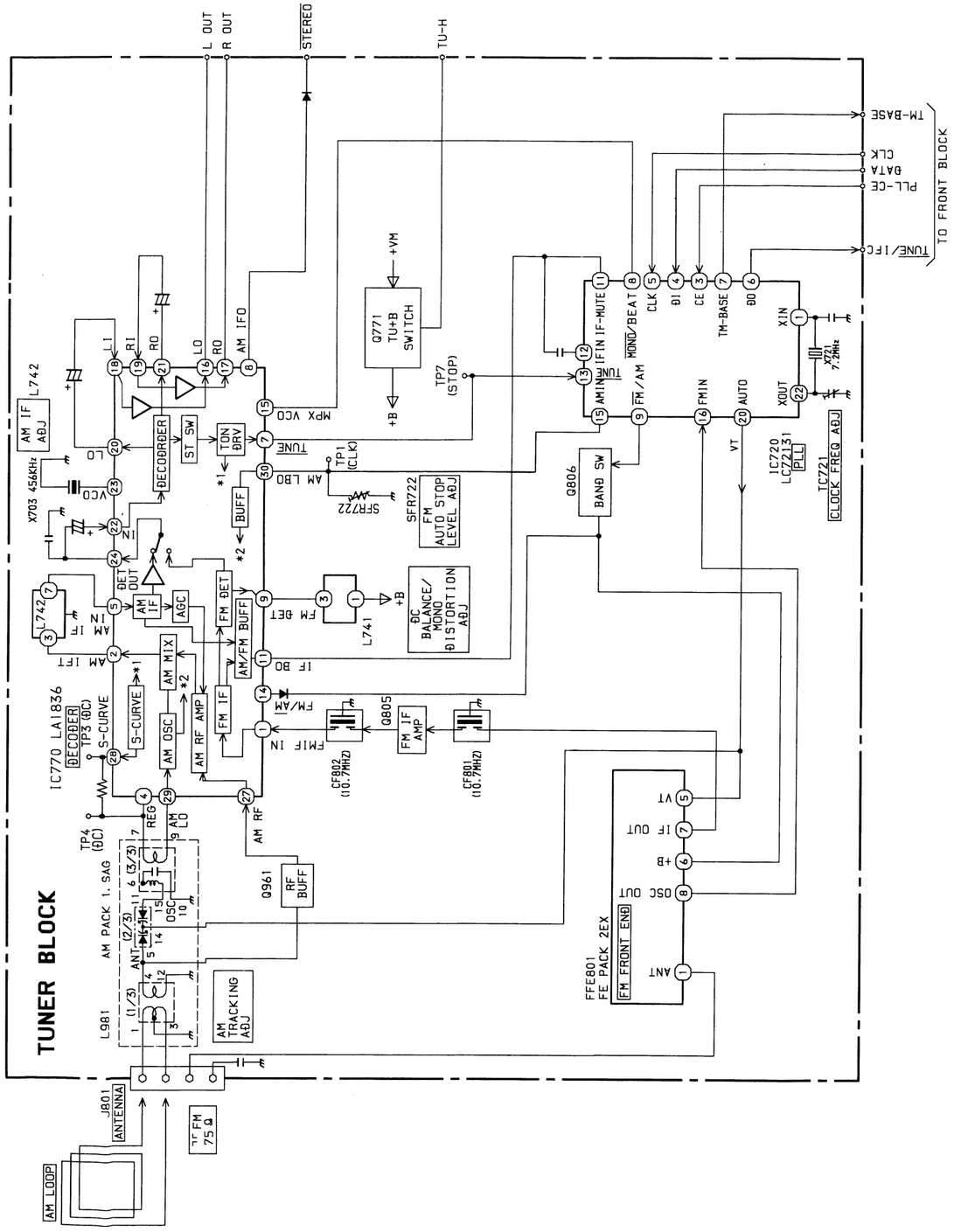
* C-SHIFT output become "H" before outputing the data to PLL at below the FM frequency range in order to reduce the FM tuning interfere.

	Frequency range	Received step
FM	66.93 ~ 67.28 MHz	10kHz
(OIRT)	71.12 ~ 71.48 MHz	
FM	79.45 ~ 79.90 MHz	50kHz
	83.65 ~ 84.10 MHz	
	87.85 ~ 88.30 MHz	
	92.00 ~ 92.50 MHz	
	96.20 ~ 96.75 MHz	
	100.40 ~ 100.95 MHz	
	104.55 ~ 105.15 MHz	

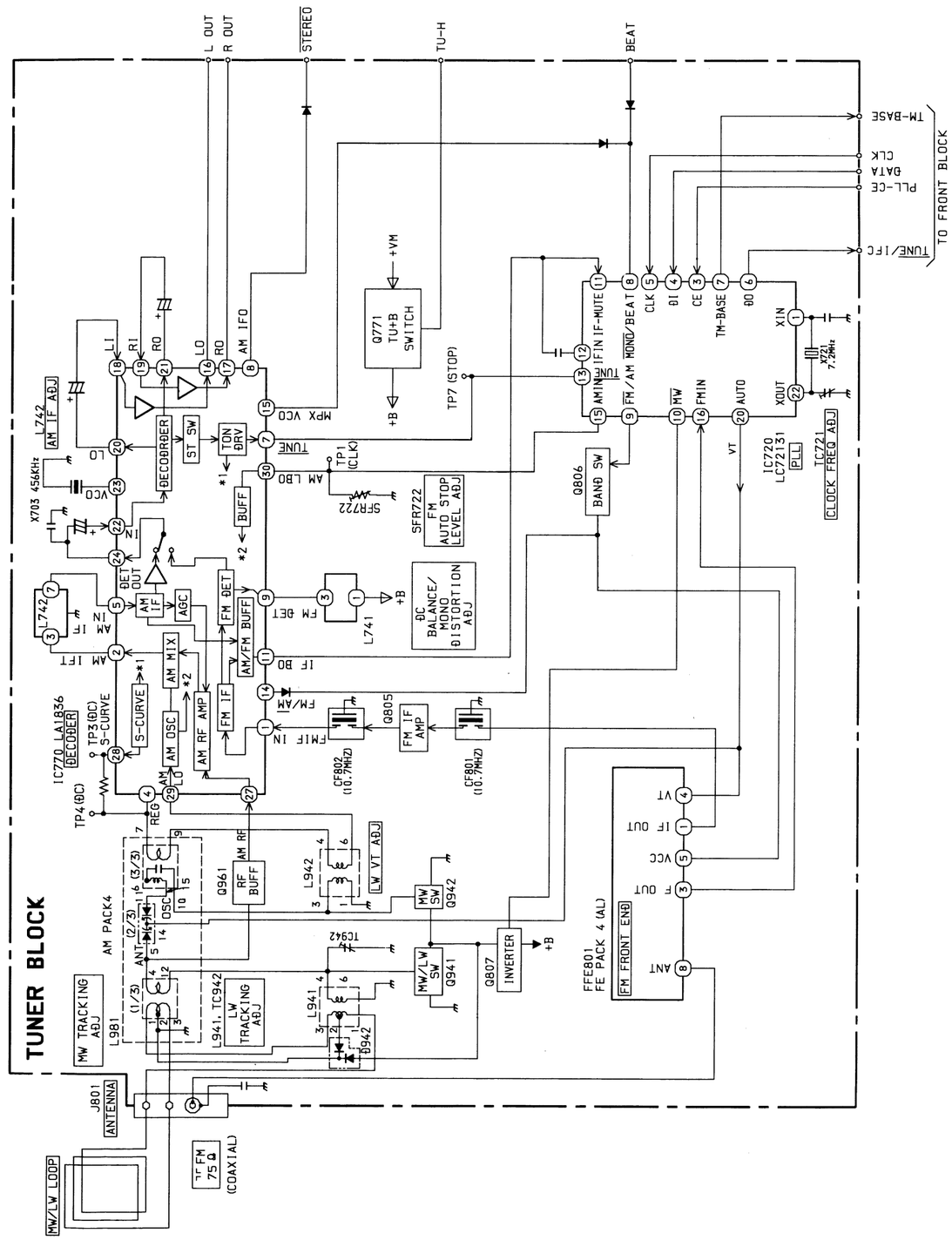
BLOCK DIAGRAM - 1 (MAIN / FRONT)

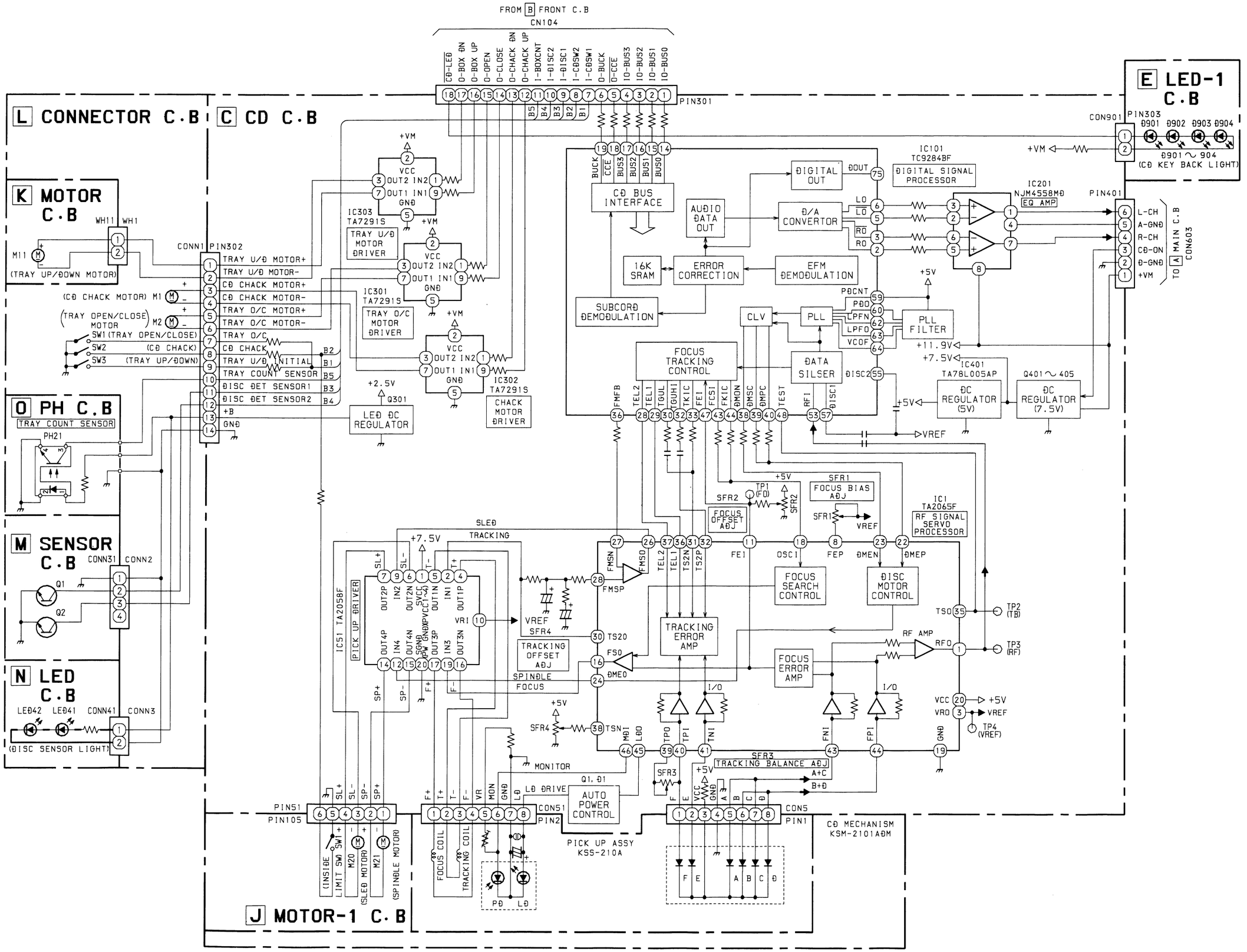


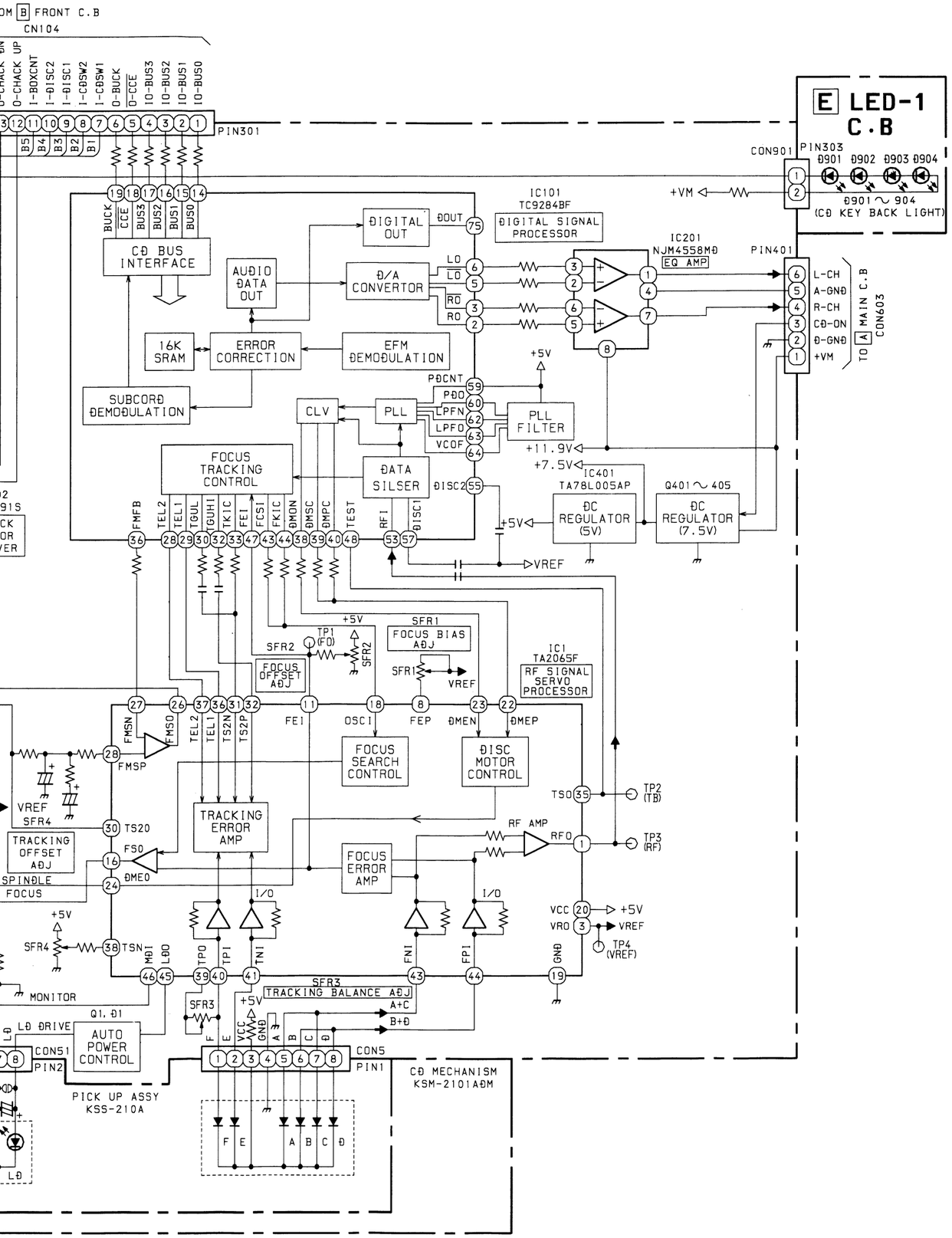
BLOCK DIAGRAM - 2 (TUNER : HE, HR, LH, U)



BLOCK DIAGRAM - 3 (TUNER : EZ)




FROM B FRONT C.B
CN104
PIN301
L CONNECTOR C.B
C CD C.B
E LED-1 C.B
K MOTOR C.B
O PH C.B
TRAY COUNT SENSOR
M SENSOR C.B
N LED C.B
J MOTOR-1 C.B
CONN1 PIN302
IC303 TA7291S
TRAY U/Ð MOTOR DRIVER
IC301 TA7291S
TRAY O/C MOTOR ÐRIVER
IC302 TA7291S
CHACK MOTOR ÐRIVER
LEÐ ÐC REGULATOR
Q301
CÐ BUS INTERFACE
AUÐIO ÐATA OUT
Ð/A CONVERTOR
ÐIGITAL OUT
IC101 TC9284BF
ÐIGITAL SIGNAL PROCESSOR
IC201 NJM4558MÐ
EQ AMP
PIN401
CON901
PIN303
Ð901 Ð902 Ð903 Ð904
Ð901 ~ 904
(CÐ KEY BACK LIGHT)
TO A MAIN C.B CON603
16K SRAM
ERROR CORRECTION
EFM ÐEMOÐULATION
SUBCORÐ ÐEMOÐULATION
CLV
PLL
PLL FILTER
FOCUS TRACKING CONTROL
ÐATA SILSER
IC401 TA78L005AP
ÐC REGULATOR (5V)
Q401 ~ 405
ÐC REGULATOR (7.5V)
VREF
SFR1 FOCUS BIAS AÐJ
SFR2 FOCUS OFFSET AÐJ
IC1 TA2065F
RF SIGNAL SERVO PROCESSOR
SLEÐ TRACKING
IC51 TA2058F
PICK UP ÐRIVER
TRACKING OFFSET AÐJ
SPINÐLE FOCUS
FOCUS SEARCH CONTROL
ÐISC MOTOR CONTROL
TRACKING ERROR AMP
FOCUS ERROR AMP
RF AMP
SFR4
SFR3 TRACKING BALANCE AÐJ
MONITOR
Q1, Ð1
LÐ ÐRIVE
AUTO POWER CONTROL
PICK UP ASSY KSS-210A
CÐ MECHANISM KSM-2101AÐM
PIN51
PIN105
CON51
PIN2
CON5
PIN1
PH21
Q1
Q2
LEÐ42 LEÐ41
CONN31 CONN2
CONN41 CONN3
(ÐISC SENSOR LIGHT)
(TRAY UP/ÐOWN MOTOR)
(CÐ CHACK MOTOR)
(TRAY OPEN/CLOSE MOTOR)
SW1 (TRAY OPEN/CLOSE)
SW2 (CÐ CHACK)
SW3 (TRAY UP/ÐOWN)
(INSIÐE LIMIT SW)
(SLEÐ MOTOR)
(SPINÐLE MOTOR)
FOCUS COIL
TRACKING COIL
TP1 (FO)
TP2 (TB)
TP3 (RF)
TP4 (VREF)



TRANSISTOR ILLUSTRATION

E C B

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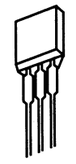
2SC1815
2SC3266
KTA1266
KTC3198

E C B

2SA1015
2SA952

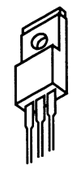


E C B

DTA114YS
DTC144WS

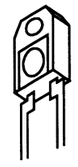
E C B

2SA1318
2SC3331



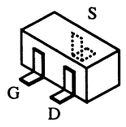
B C E

2SB1370

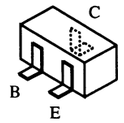


E C

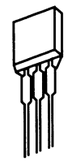
PT4850F



2SK543



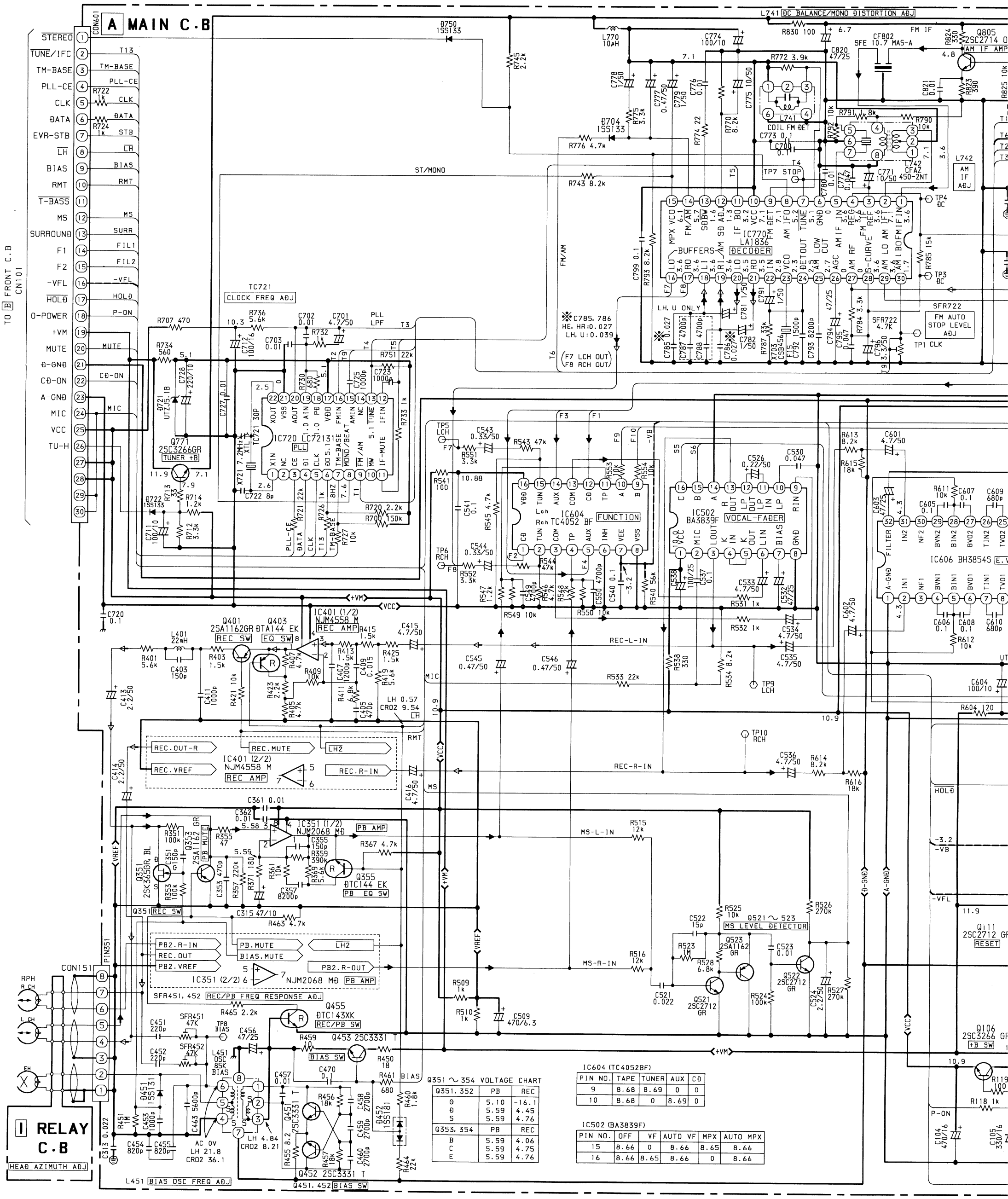
2SA1162 DTA143EK
2SC2712 DTA144EK
2SC2714 DTC143XK
2SC3326 DTC144EK
DTC144WK



D G S

2SK365

SCHEMATIC BLOCK DIAGRAM - 1 (MAIN : HE, HR, LH, U)



Q351 ~ 354 VOLTAGE CHART

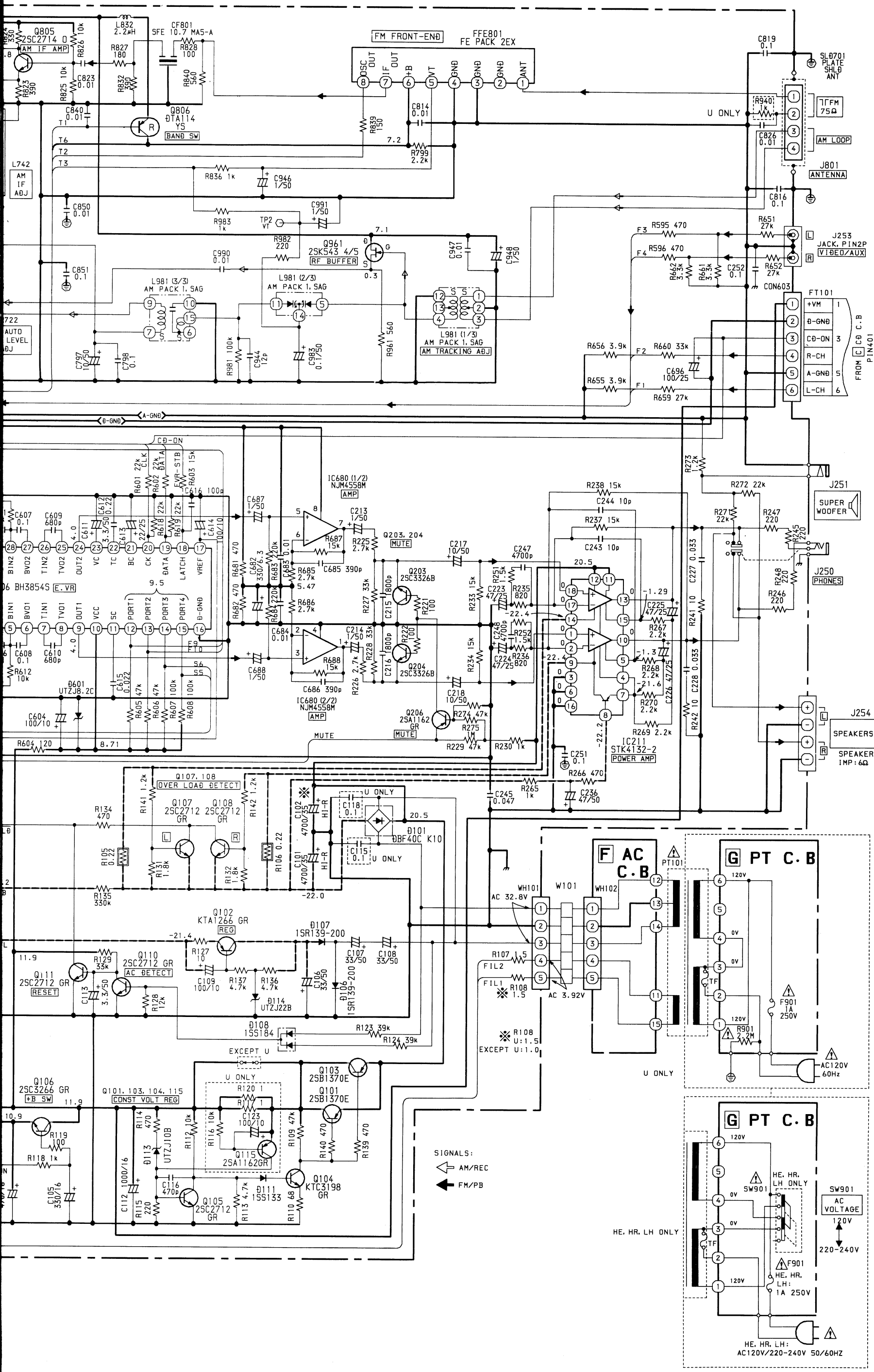
Q351, 352	PB	REC
G	5.10	-16.1
Đ	5.59	4.45
S	5.59	4.76
Q353, 354	**PB**	**REC**
B	5.59	4.06
C	5.59	4.75
E	5.59	4.76

IC604 (TC4052BF)

PIN NO.	TAPE	TUNER	AUX	CĐ
9	8.68	8.69	0	0
10	8.68	0	8.69	0

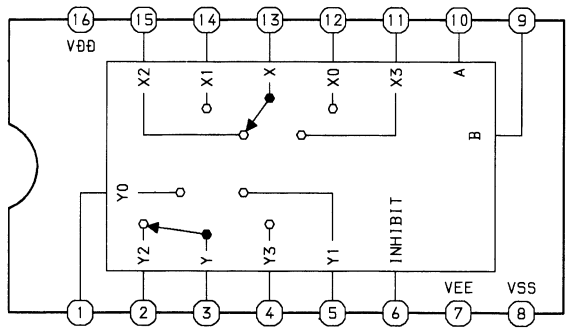
IC502 (BA3839F)

PIN NO.	OFF	VF	AUTO VF	MPX	AUTO MPX
15	8.66	0	8.66	8.65	8.66
16	8.66	8.65	8.66	0	8.66


Q805 2SC2714 O AM IF AMP
L832 2.2µH
CF801 SFE 10.7 MA5-A
FM FRONT-END
FFE801 FE PACK 2EX
OSC OUT
IF OUT
+B
VT
GND
GND
GND
ANT
Q806 DTA114 YS BAND SW
L742 AM IF ADJ
C819 0.1
SLD701 PLATE SHLD ANT
U ONLY
R940 1k
FM 75Ω
AM LOOP
J801 ANTENNA
C826 0.01
C816 0.1
C814 0.01
R799 2.2k
R836 1k
C946 1/50
C991 1/50
R983 1k
TP2 VT
C850 0.01
C851 0.1
C990 0.01
R982 220
Q961 2SK543 4/5 RF BUFFER
C947 0.01
C948 1/50
L981 (3/3) AM PACK 1, SAG
L981 (2/3) AM PACK 1, SAG
L981 (1/3) AM PACK 1, SAG AM TRACKING ADJ
R961 560
C797 10/50
C798 0.1
R981 100k
C944 12p
C983 0.1/50
R595 470
R596 470
R662 3.3k
R661 3.3k
C252 0.1
R651 27k
R652 27k
J253 JACK, PIN2P VIDEO/AUX
CON603
FT101
+VM
D-GND
CD-ON
R-CH
A-GND
L-CH
FROM C CD C.B PIN401
R656 3.9k
R660 33k
C696 100/25
R655 3.9k
R659 27k
D-GND
A-GND
CD-ON
IC680 (1/2) NJM4558M AMP
IC680 (2/2) NJM4558M AMP
IC680 BH3854S E.VR
R601 22k CLK
R602 22k DATA
R603 15k EVR-STB
C616 100p
C607 0.1
C609 680p
C612 0.22
C611 3.3/50
C613 22/25
C614 100/10
R618 22k
R619 22k
C687 1/50
C682 330/6.3
C683 0.01
C684 0.01
C688 1/50
R681 470
R682 470
R683 220k
R684 220k
R685 2.7k
R686 2.7k
C685 390p
C686 390p
R687 15k
R688 15k
C213 1/50
C214 1/50
R225 2.7k
R226 2.7k
R227 33k
R228 33k
Q203, 204 MUTE
Q203 2SC3326B
Q204 2SC3326B
C215 1800p
C216 1800p
R221 100
R222 100
C217 10/50
C218 10/50
Q206 2SA1162 GR MUTE
R274 47k
R275 1M
R229 47k
R230 1k
MUTE
C247 4700p
C248 4700p
R233 15k
R234 15k
R251 1.5k
R252 1.5k
C223 47/25
C224 47/25
R235 820
R236 820
C225 47/25
C226 47/25
R238 15k
C244 10p
R237 15k
C243 10p
R267 2.2k
R268 2.2k
R269 2.2k
R270 2.2k
IC211 STK4132-2 POWER AMP
C251 0.1
R266 470
C245 0.047
C236 47/50
R265 1k
R273 1.2k
R272 22k
R271 22k
R247 220
R245 220
R248 220
R246 220
R241 10
R242 10
C227 0.033
C228 0.033
J251 SUPER WOOFER
J250 PHONES
J254 SPEAKERS
SPEAKER IMP:6Ω
R604 120
C604 100/10
D601 UTZJ8.2C
R605 47k
R606 47k
R607 100k
R608 100k
C615 0.022
R612 10k
C608 0.1
C610 680p
C605 0.1
C609 680p
C612 0.22
C611 3.3/50
C613 22/25
C614 100/10
R618 22k
R619 22k
R603 15k
C616 100p
Q107, 108 OVER LOAD DETECT
Q107 2SC2712 GR
Q108 2SC2712 GR
R141 1.2k
R142 1.2k
R134 470
R135 330k
R105 0.22
R106 0.22
R131 1.8k
R132 1.8k
C102 4700/35 HI-R
C101 4700/35 HI-R
C118 0.1
C115 0.1
D101 DBF40C K10
U ONLY
20.5
-22.0
Q102 KTA1266 GR REG
D107 1SR139-200
R127 10
C109 100/10
R137 4.7k
R136 4.7k
C107 33/50
C108 33/50
C106 33/50
D106 1SR139-200
D114 UTZJ22B
Q110 2SC2712 GR AC DETECT
Q111 2SC2712 GR RESET
R129 33k
C113 3.3/50
R128 12k
D108 1SS184
R123 39k
R124 39k
EXCEPT U
Q106 2SC3266 GR +B SW
Q101, 103, 104, 115 CONST VOLT REG
Q103 2SB1370E
Q101 2SB1370E
U ONLY
R120 1
R121 1
C123 100/10
Q115 2SA1162GR
R119 100
R118 1k
C105 330/16
C112 1000/16
R114 470
D113 UTZJ10B
R112 10k
R116 10k
R109 47k
R140 470
R139 470
C116 470p
Q105 2SC2712 GR
D111 1SS133
R113 4.7k
R115 220
R110 68
Q104 KTC3198 GR
R107 1.5
FIL2
FIL1
R108 1.5
R108 U:1.5
EXCEPT U:1.0
AC 32.8V
AC 3.92V
WH101
WH102
W101
F AC C.B
G PT C.B
PT101
120V
0V
TF
F901 1A 250V
R901 2.2M
AC120V 60Hz
HE, HR, LH ONLY
SW901
AC VOLTAGE
120V
220-240V
HE, HR, LH: 1A 250V
HE, HR, LH: AC120V/220-240V 50/60HZ
SIGNALS:
AM/REC
FM/PB

IC BLOCK DIAGRAM - 1

IC, TC4052BF

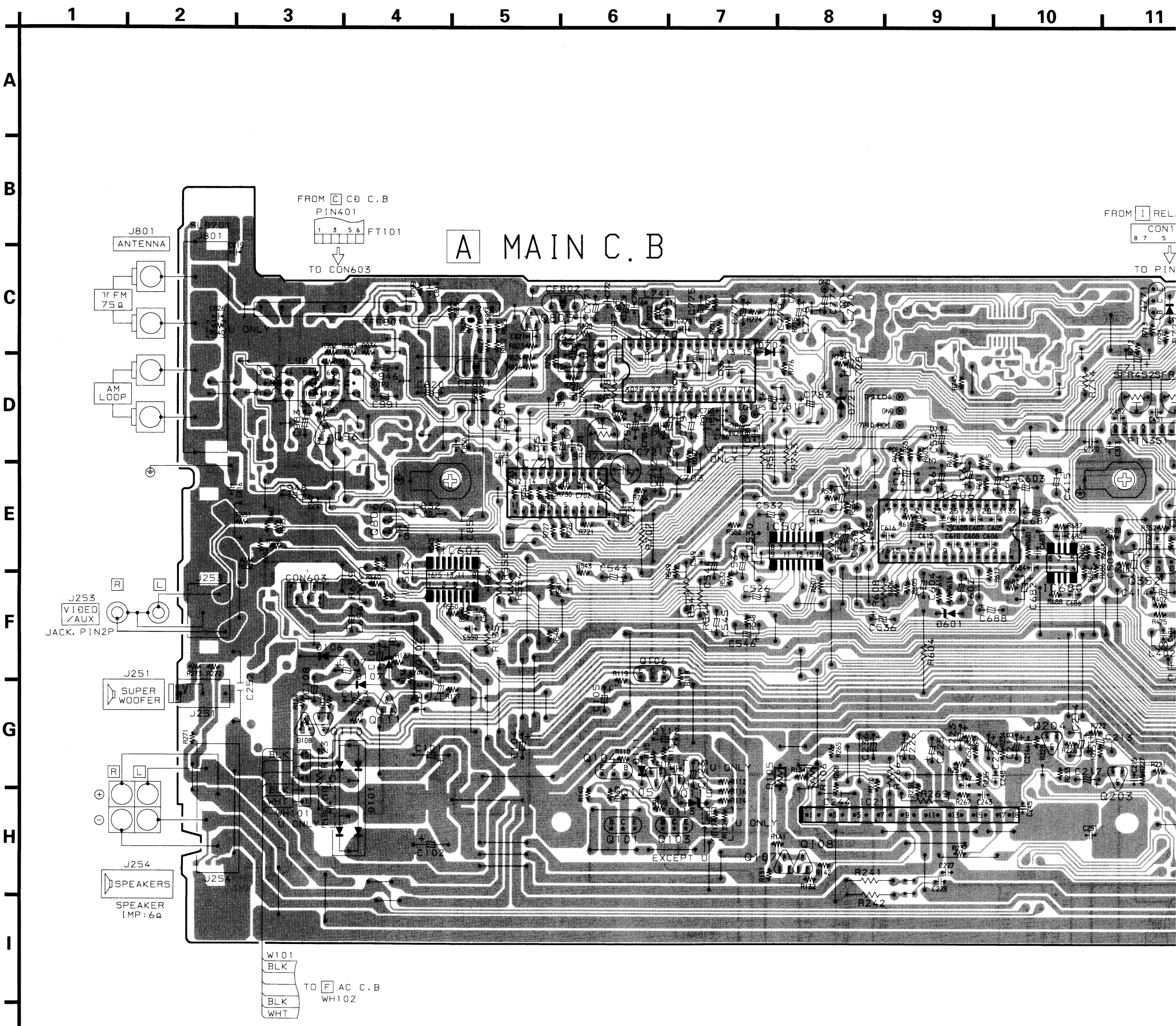


TRUTH TABLE

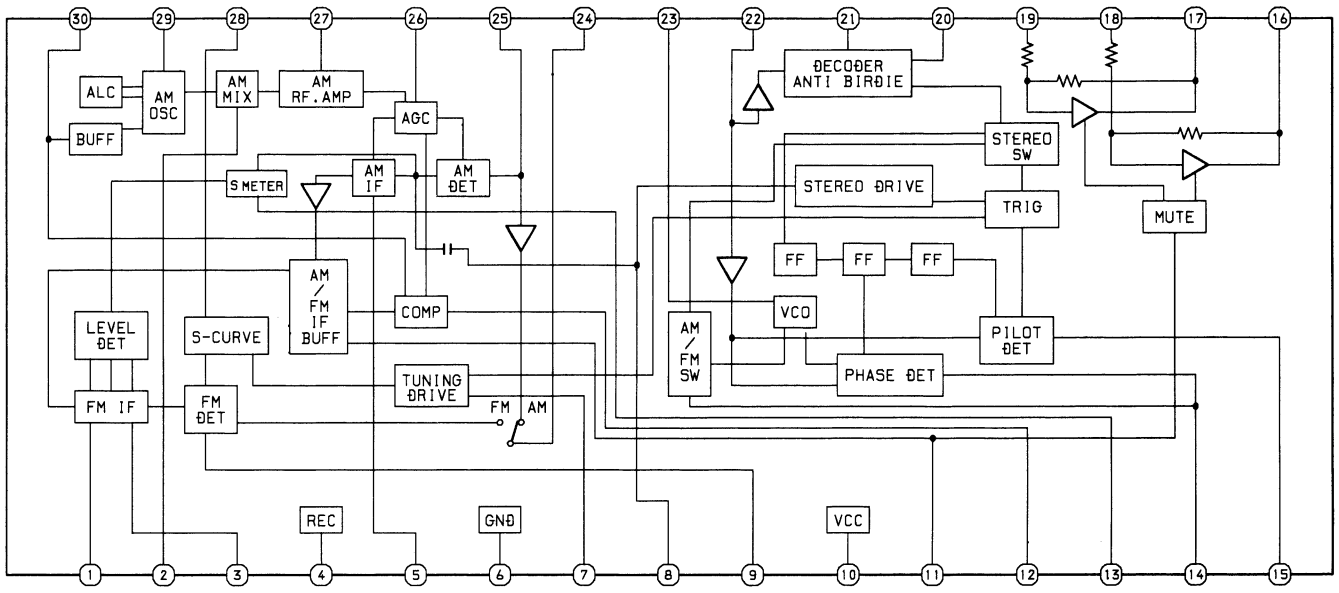
CONTROL INPUTS			ON SWITCH	
INHIBIT	B	A		
L	L	L	Y0	X0
L	L	H	Y1	X1
L	H	L	Y2	X2
L	H	H	Y3	X3
H	X	X	—	—

L:LOW LEVEL
H:HIGH LEVEL
H:IRRELEVANT

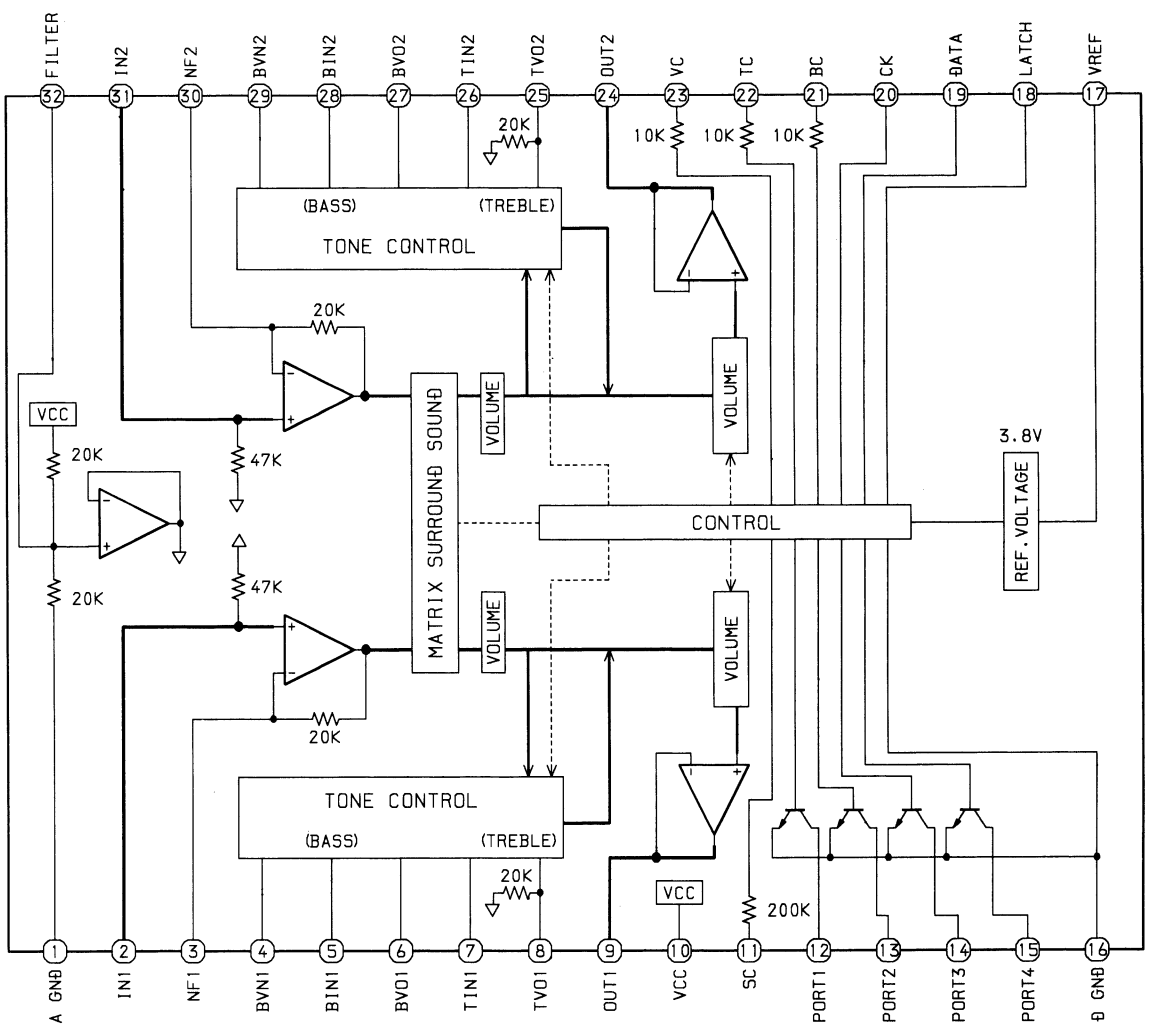
WIRING - 1 (MAIN : HE, HR, LH, U)



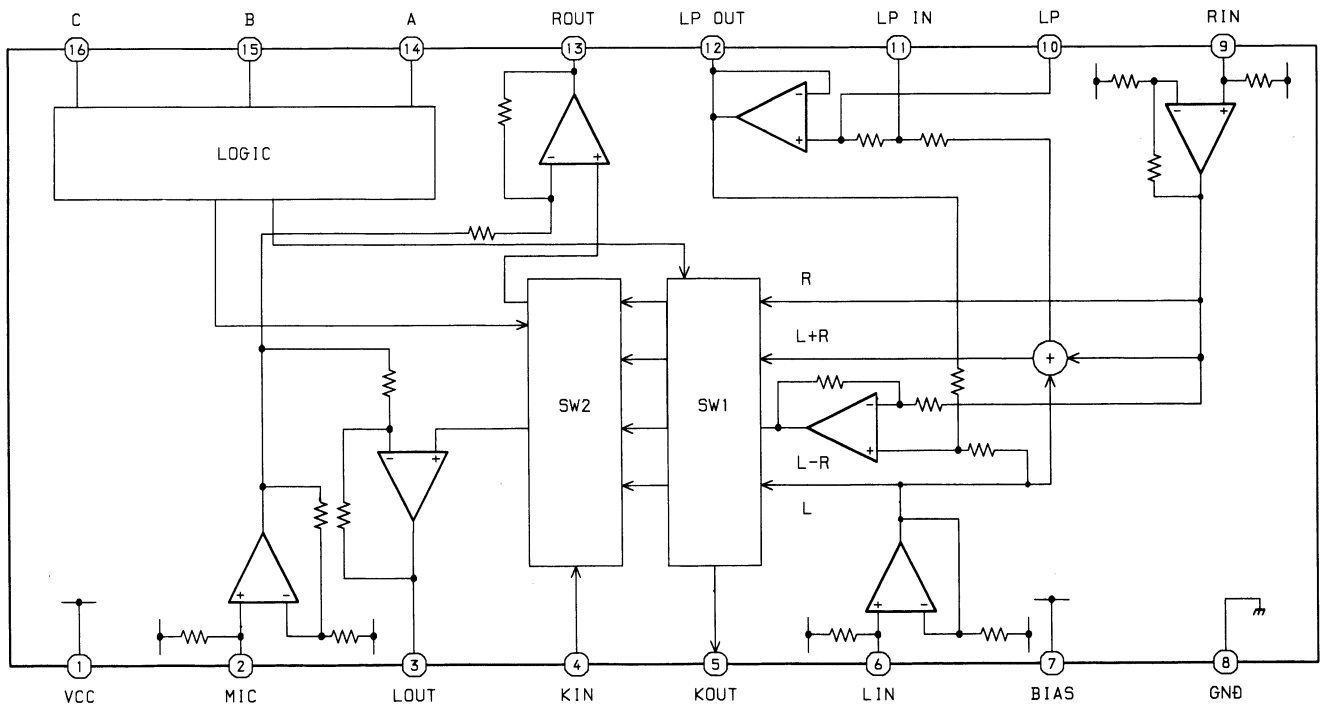
IC, LA1836

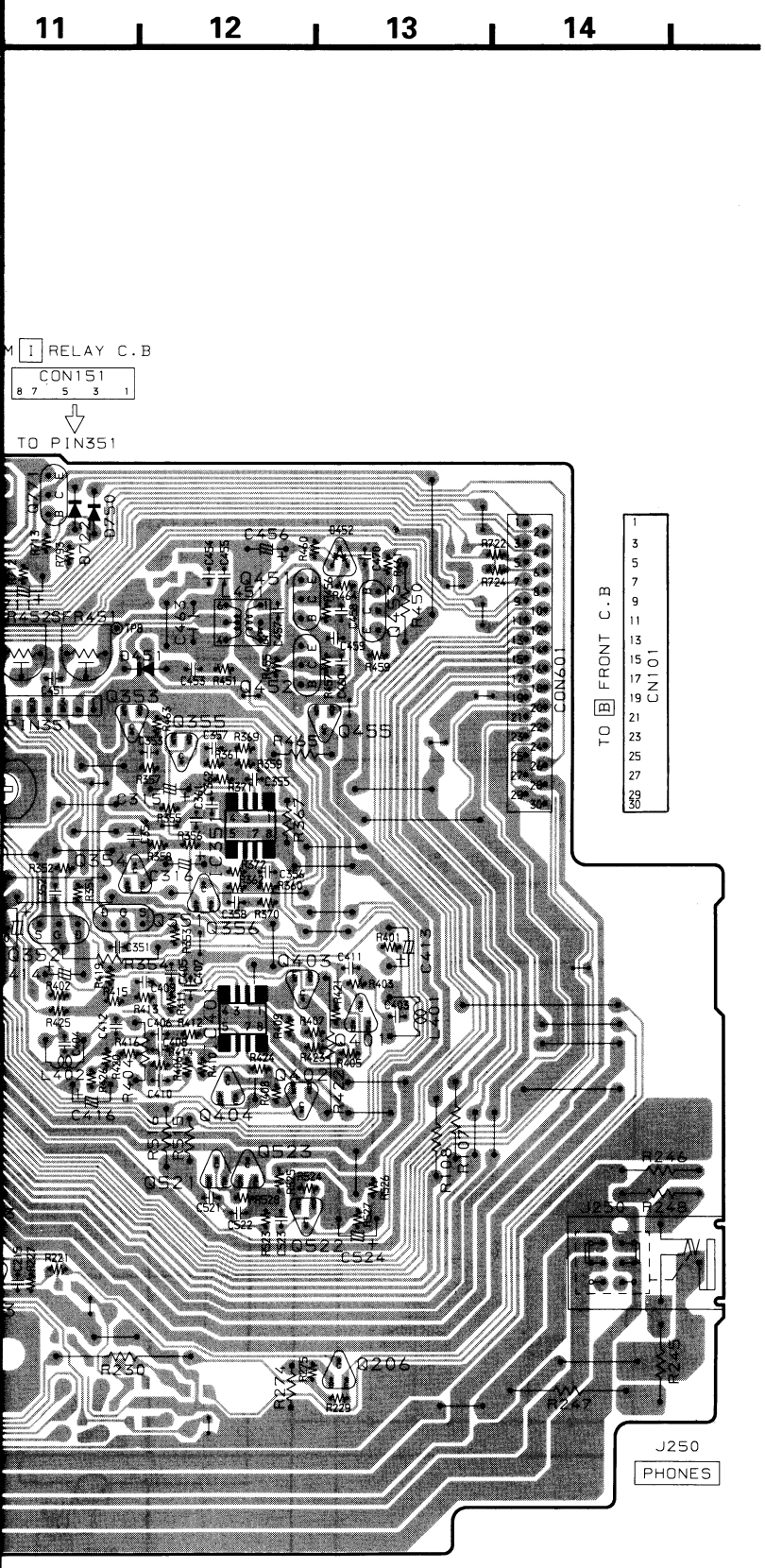


IC, BH3854S

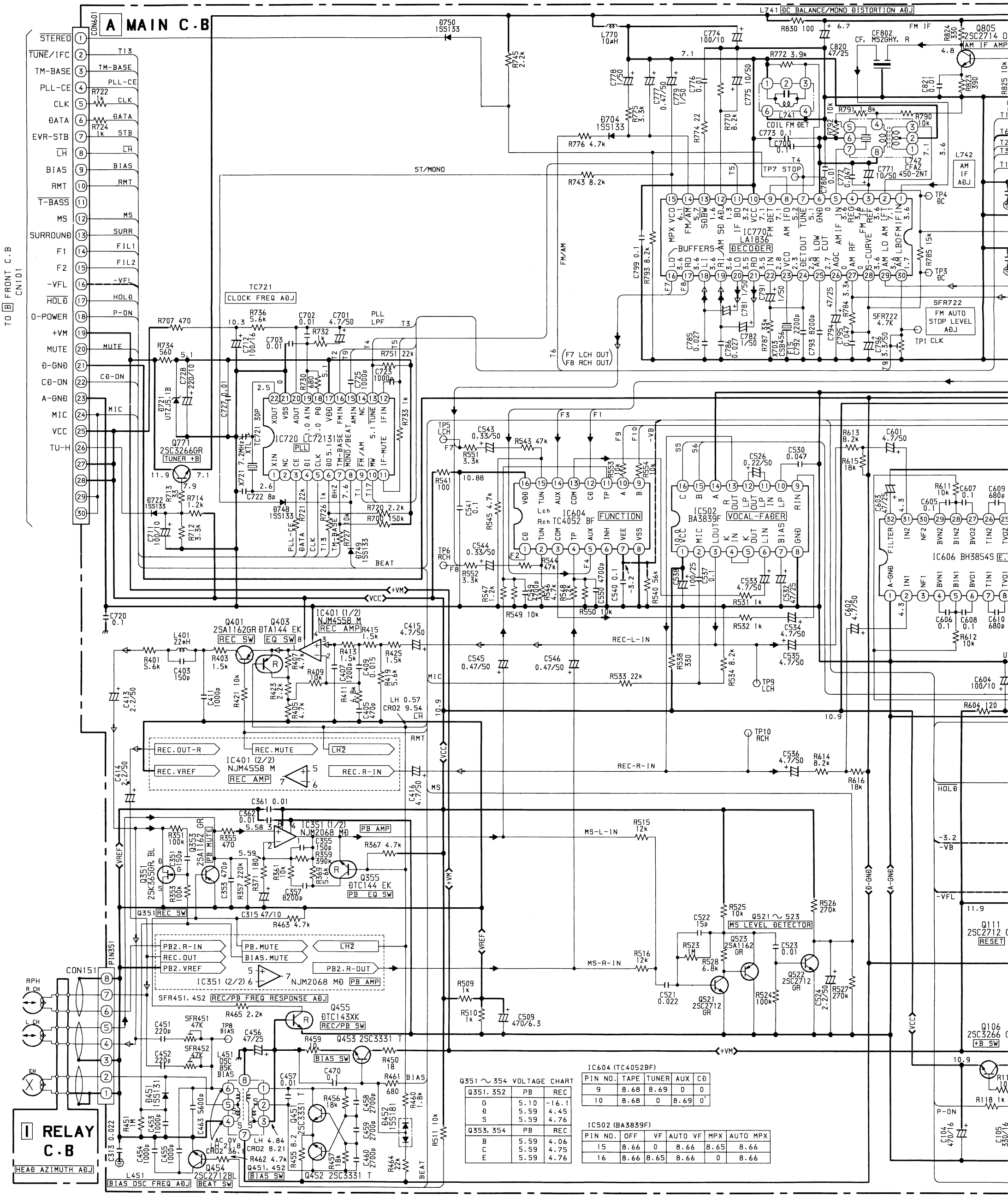


IC, BA3839F





SCHEMATIC BLOCK DIAGRAM - 2 (MAIN : EZ)



Q351 ~ 354 VOLTAGE CHART

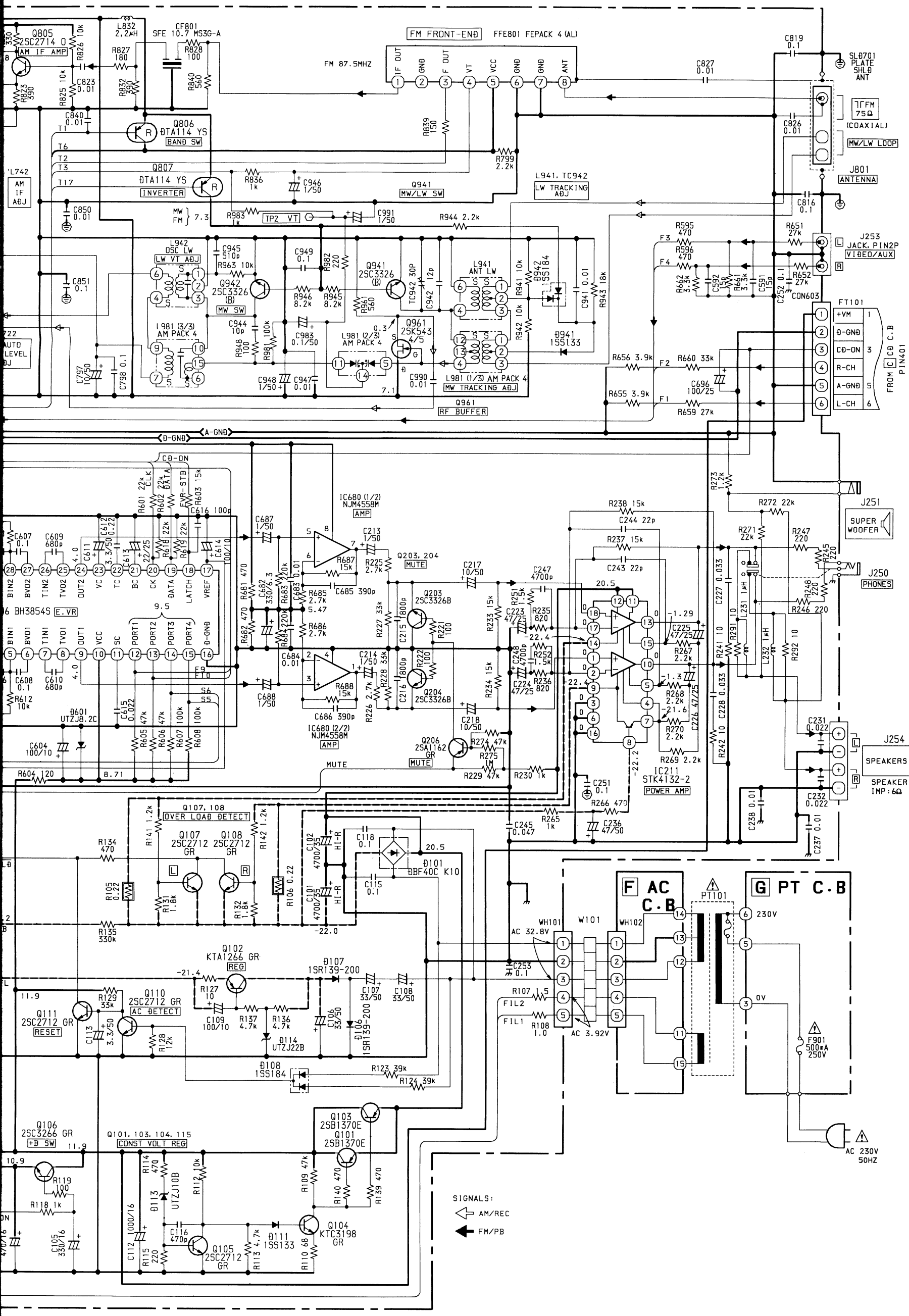
Q351, 352	PB	REC
G	5.10	-16.1
Ð	5.59	4.45
S	5.59	4.76
Q353, 354	PB	REC
B	5.59	4.06
C	5.59	4.75
E	5.59	4.76

IC604 (TC4052BF)

PIN NO.	TAPE	TUNER	AUX	CÐ
9	8.68	8.69	0	0
10	8.68	0	8.69	0

IC502 (BA3839F)

PIN NO.	OFF	VF	AUTO VF	MPX	AUTO MPX
15	8.66	0	8.66	8.65	8.66
16	8.66	8.65	8.66	0	8.66


FM FRONT-END
FFE801 FEPACK 4 (AL)
FM 87.5MHZ
IF OUT
GND
F OUT
VT
VCC
GND
GND
ANT
Q805 2SC2714 O
AM IF AMP
L832 2.2μH
CF801 SFE 10.7 MS3G-A
Q806 DTA114 YS
BAND SW
Q807 DTA114 YS
INVERTER
Q941
MW/LW SW
L941, TC942
LW TRACKING ADJ
L742
AM IF ADJ
L942 OSC LW
LW VT ADJ
Q942 2SC3326 (B)
MW SW
Q941 2SC3326 (B)
L941 ANT LW
D941 1SS184
D941 1SS133
L981 (3/3) AM PACK 4
L981 (2/3) AM PACK 4
Q961 2SK543 4/5
L981 (1/3) AM PACK 4
MW TRACKING ADJ
Q961
RF BUFFER
TP2 VT
MW FM 7.3
C819 0.1
SLD701 PLATE SHLD ANT
C827 0.01
TFM 75Ω (COAXIAL)
MW/LW LOOP
J801 ANTENNA
C826 0.01
C816 0.1
J253 JACK, PIN2P VIDEO/AUX
CON603
FT101
+VM
D-GND
CD-ON
R-CH
A-GND
L-CH
FROM C CD C.B PIN401
D-GND
A-GND
CD-ON
IC680 (1/2) NJM4558M AMP
IC680 (2/2) NJM4558M AMP
IC680 BH3854S E.VR
D601 UTZJ8.2C
Q203, 204
MUTE
Q203 2SC3326B
Q204 2SC3326B
Q206 2SA1162 GR
MUTE
IC211 STK4132-2
POWER AMP
J251 SUPER WOOFER
J250 PHONES
J254 SPEAKERS
SPEAKER IMP:6Ω
Q107, 108
OVER LOAD DETECT
Q107 2SC2712 GR
Q108 2SC2712 GR
D101 DBF40C K10
Q102 KTA1266 GR
REG
D107 1SR139-200
Q111 2SC2712 GR
RESET
Q110 2SC2712 GR
AC DETECT
D108 1SS184
Q106 2SC3266 GR
+B SW
Q101, 103, 104, 115
CONST VOLT REG
Q103 2SB1370E
Q101 2SB1370E
D113 UTZJ10B
Q104 KTC3198 GR
Q105 2SC2712 GR
D111 1SS133
F AC C.B
G PT C.B
PT101
WH101
W101
WH102
AC 32.8V
AC 3.92V
230V
0V
F901 500mA 250V
AC 230V 50HZ
SIGNALS:
AM/REC
FM/PB

A MAIN C.B

FROM C CD C.B
PIN401
FT101
TO CON603

FROM I RELAY C.B
CON151
TO PIN351

J801 ANTENNA
FM 75Ω (COAXIAL)
AM LOOP

J253 VIDEO /AUX JACK, PIN2P

J251 SUPER WOOFER

J254 SPEAKERS
SPEAKER IMP:6Ω

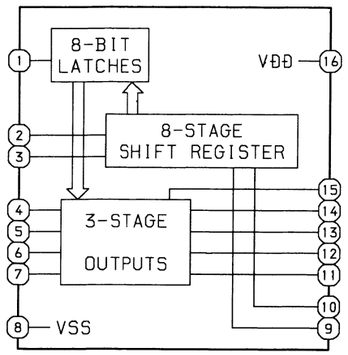
J250 PHONES

TO B FRONT C.B
CN101

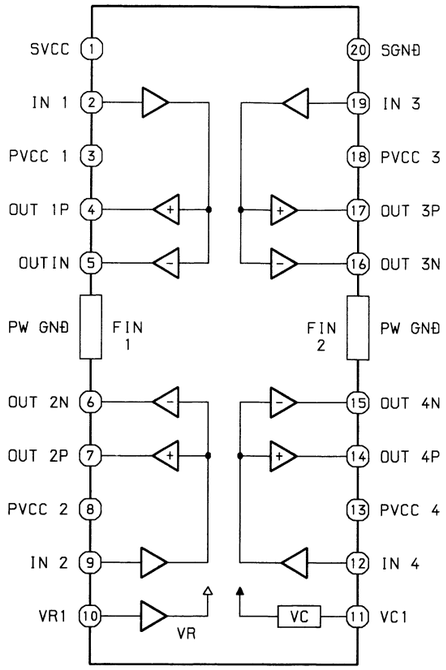
W101
BLK
BLK
BLK
WHT
TO F AC C.B
WH102

IC BLOCK DIAGRAM - 2

IC, TC4094BF



IC, TA2058F



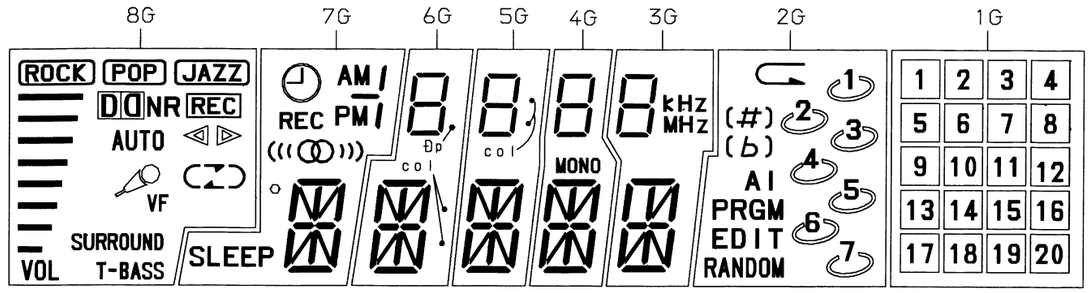
IC, TA7291S

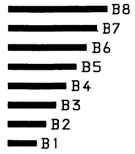
INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	CW
0	1	L	H	CCW
1	1	L	L	BRAKE

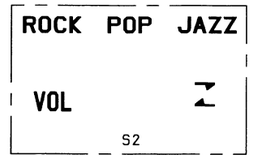
∞ : HI IMPEDANCE
NOTE : INPUT "H" ACTIVE

FL (8-BT-179GK) GRID ASSIGNMENT / ANODE CONNECTION

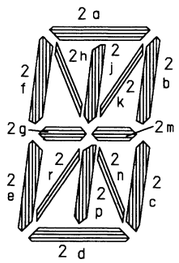
GRID ASSIGNMENT



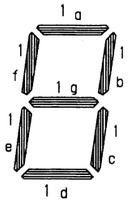




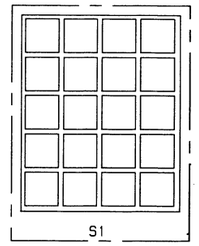
(8G)



(7G ~ 3G)



(6G ~ 3G)



(1G)

ANODE CONNECTION

	8G	7G	6G	5G	4G	3G	2G	1G
P1	T-BASS	2d	2d	2d	2d	2d	RANDOM	20
P2	SURROUND	2j, 2p	2j, 2p	2j, 2p	2j, 2p	2j, 2p	EDIT	19
P3	VF	2n	2n	2n	2n	2n	PRGM	18
P4	(	2r	2r	2r	2r	2r	AI	17
P5	)	2c	2c	2c	2c	2c	(7)	16
P6	AUTO	2e	2e	2e	2e	2e	7	15
P7	▷	2m	2m	2m	2m	2m	(6)	14
P8	◁	2g	2g	2g	2g	2g	6	13
P9	DOLBY NR	2f	2f	2f	2f	2f	(5)	12
P10	REC	2b	2b	2b	2b	2b	5	11
P11	(JAZZ)	2k	2k	2k	2k	2k	(4)	10
P12	(POP)	2h	2h	2h	2h	2h	4	9
P13	(ROCK)	2a	2a	2a	2a	2a	(3)	8
P14	B1	SLEEP	COL	COL (DOWN)	MONO	MHZ	3	7
P15	B2	○	Dp	COL (UP)	—	KHz	(2)	6
P16	B3	AM	1a	1a	1a	1a	2	5
P17	B4	/	1b	1b	1b	1b	(1)	4
P18	B5	—	1f	1f	1f	1f	1	3
P19	B6	PM	1g	1g	1g	1g	↵	2
P20	B7	◷	1c	1c	1c	1c	(#)	1
P21	B8	REC	1e	1e	1e	1e	(b)	S1
P22	S2	((◎))	1d	1d	1d	1d	#b	—

AD PORT INPUT LEVEL / WAVEFORM

① I-CD SW2

CD SWITCH (LIMIT SW, CHACK SW) AD INPUT
LIMIT SW : Switch on at the most internal circle.
CHACK SW : Switch on when chacking.
Voltage must be within when below mode.

VOLTAGE	AD		LIMIT-SW	CHACK-SW
	Hex	Dec		
5.60	FF	255	OFF	OFF
4.95	E 1	225	ON	OFF
3.83	AE	174	OFF	ON
3.08	8C	140	ON	ON
0.00	00	0		

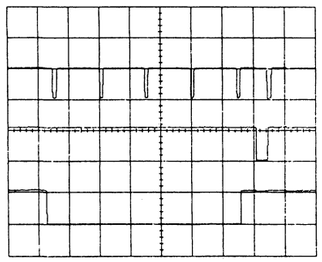
② I-CD SW1

CD SWITCH (OPEN SW, BOX SW) AD INPUT
OPEN SW : Switch off when open or close.
BOX SW : Switch on when the box is the most below position.
Voltage must be within when below mode.

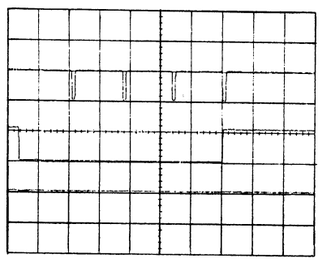
VOLTAGE	AD		LIMIT-SW	CHACK-SW
	Hex	Dec		
5.60	FF	255	OFF	OFF
4.95	E 1	225	ON	OFF
3.83	AE	174	OFF	ON
3.08	8C	140	ON	ON
0.00	00	0		

③ BOX COUNT SENSOR
Tray 1 open / close

CLOSE VOLT / DIV : 5V
TIME / DIV : 200mS



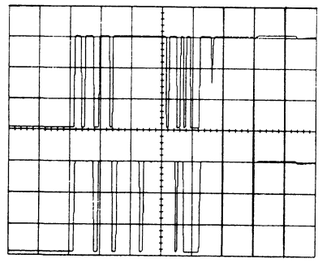
OPEN VOLT / DIV : 5V
TIME / DIV : 200mS



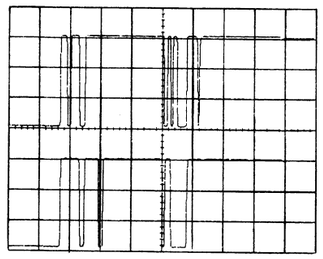
④ DISC 1

⑤ DISC 2
Signal pattern : No disc, 8 cm, 12 cm
Tray can not close when signal pattern is different.

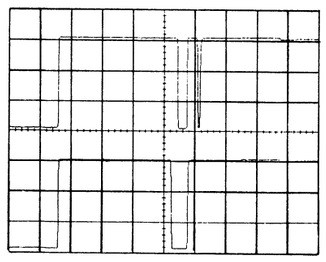
No disc VOLT / DIV : 2V
TIME / DIV : 100mS



8 cm VOLT / DIV : 2V
TIME / DIV : 100mS



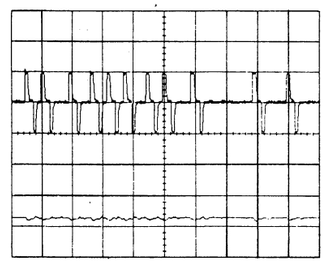
12 cm VOLT / DIV : 2V
TIME / DIV : 100mS



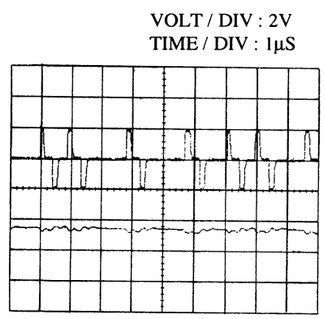
⑥ PDO

⑦ LPFO
Disc turn speed

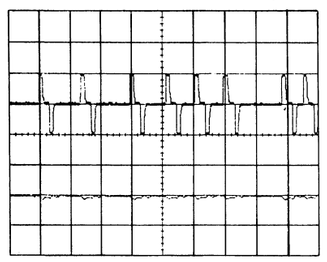
High VOLT / DIV : 2V
TIME / DIV : 1µS



Slow
VOLT / DIV : 2V
TIME / DIV : 1µS



Normal
VOLT / DIV : 2V
TIME / DIV : 1µS

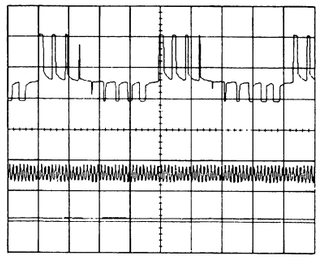


⑧ DMPC

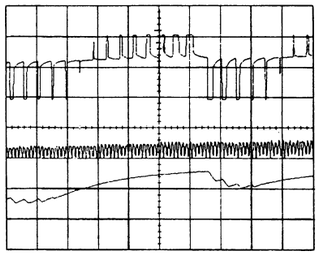
⑨ DMFC

⑩ DMEO
Spindle motor rotation speed

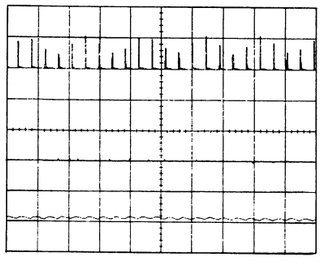
High ⑧ ⑨ VOLT / DIV : 2V
TIME / DIV : 5mS
⑩ VOLT / DIV : 1V
TIME / DIV : 5mS



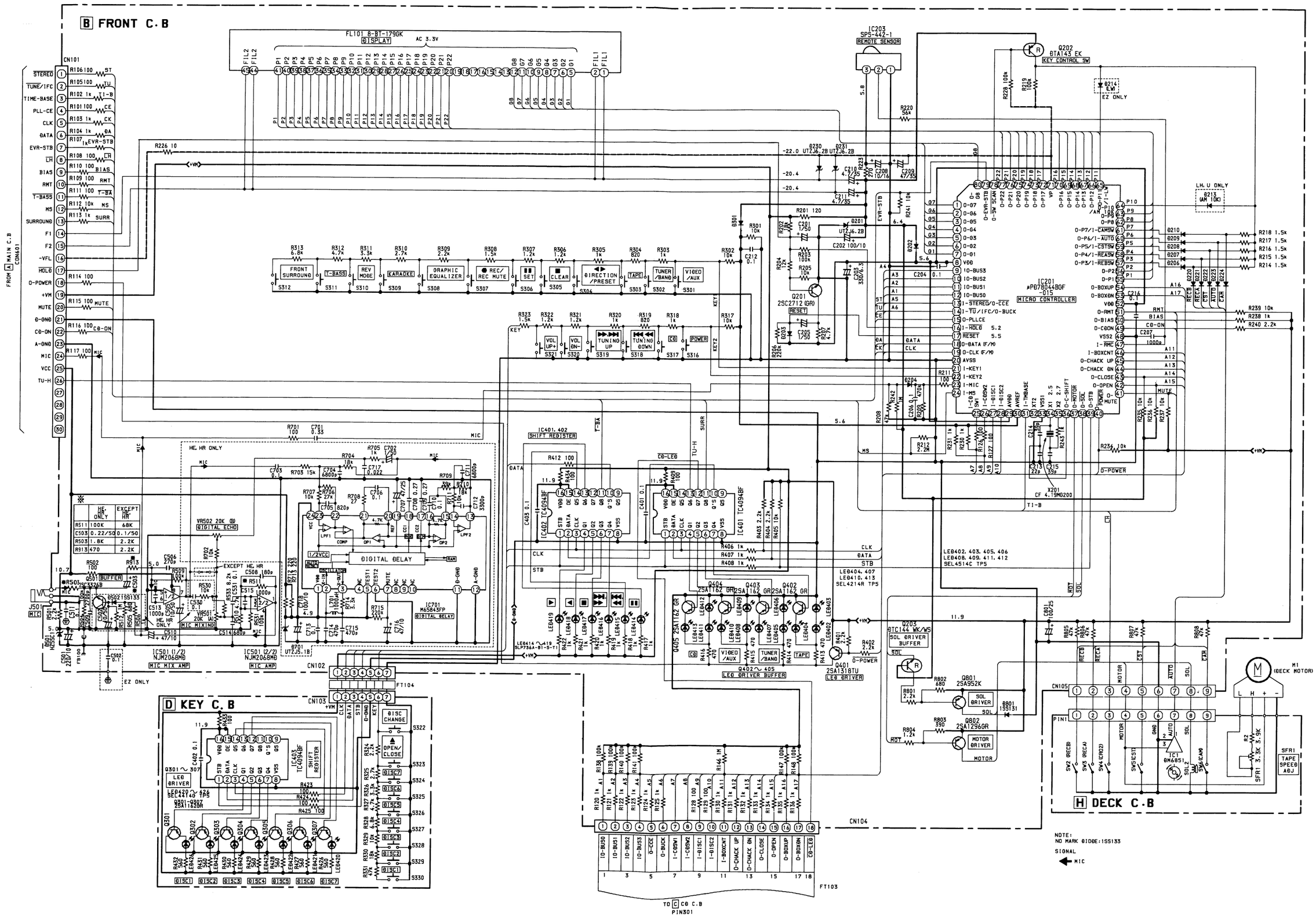
Slow ⑧ ⑨ VOLT / DIV : 2V
TIME / DIV : 5mS
⑩ VOLT / DIV : 1V
TIME / DIV : 5mS



Normal ⑧ ⑨ VOLT / DIV : 2V
TIME / DIV : 5mS
⑩ VOLT : 1V
TIME / DIV : 5mS



SCHEMATIC BLOCK DIAGRAM - 3 (FRONT)



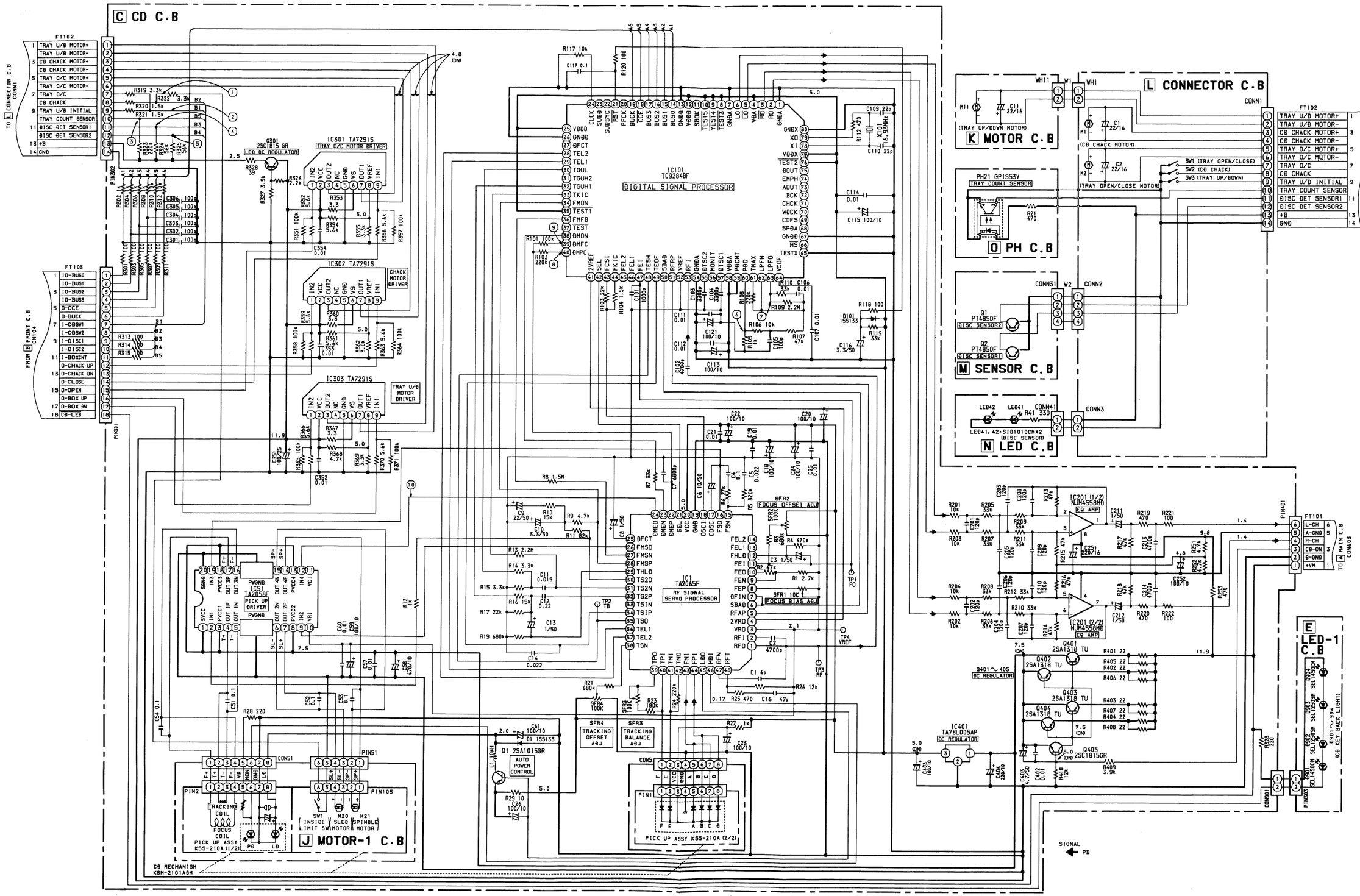
1 2 3 4 5 6 7 8 9 10 11 12 13 14

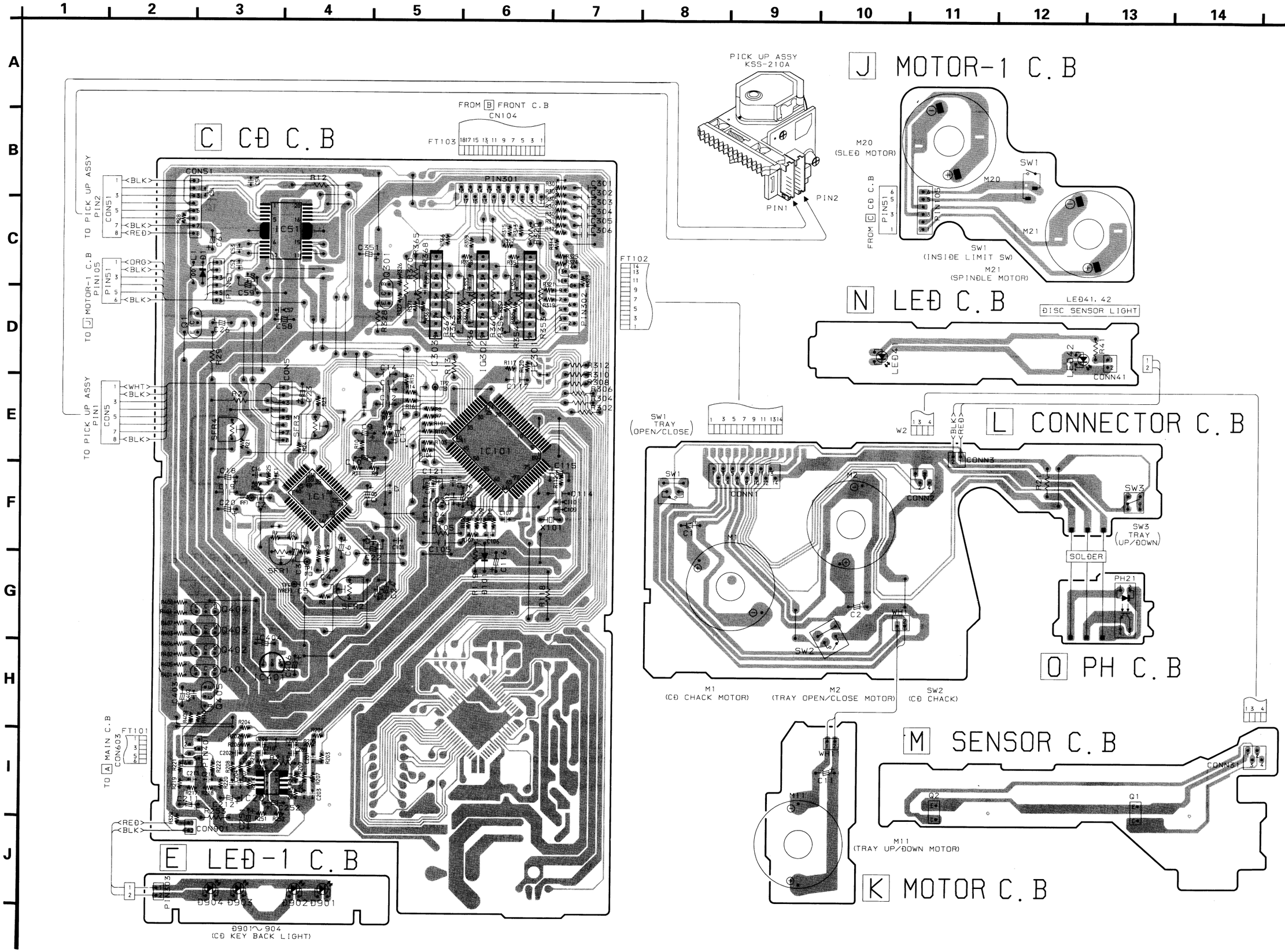
A B C D E F G H I J

Đ KEY C.B

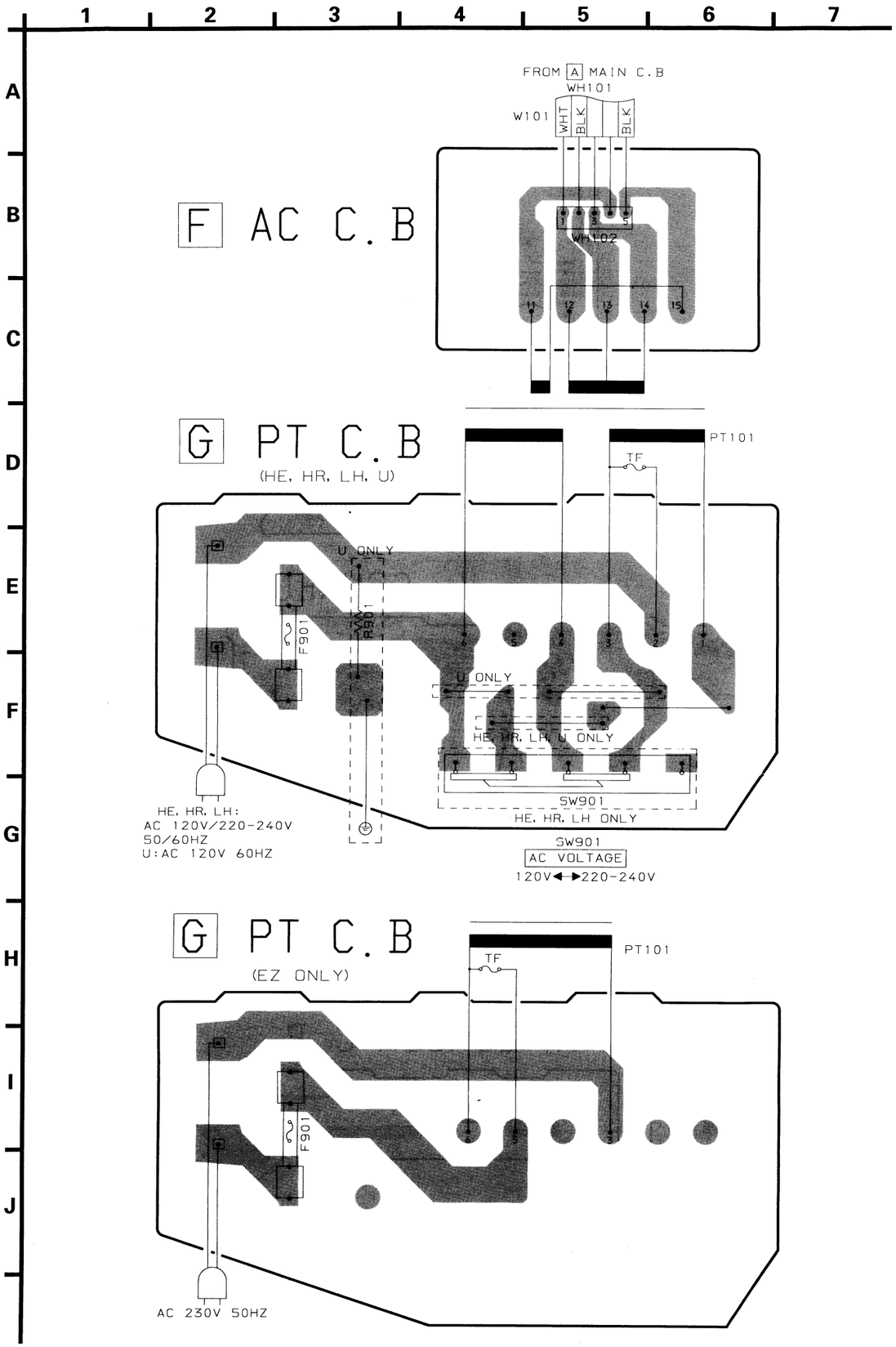
S322 S323 Q303 Q304 Q305 Q306 Q307 Q308 Q309 Q310 Q311 Q312 Q313 Q314 Q315 Q316 Q317 Q318 Q319 Q320 Q321 Q322 Q323 Q324 Q325 Q326 Q327 Q328 Q329 Q330 Q331 Q332 Q333 Q334 Q335 Q336 Q337 Q338 Q339 Q340 Q341 Q342

SCHEMATIC BLOCK DIAGRAM - 4 (CD)

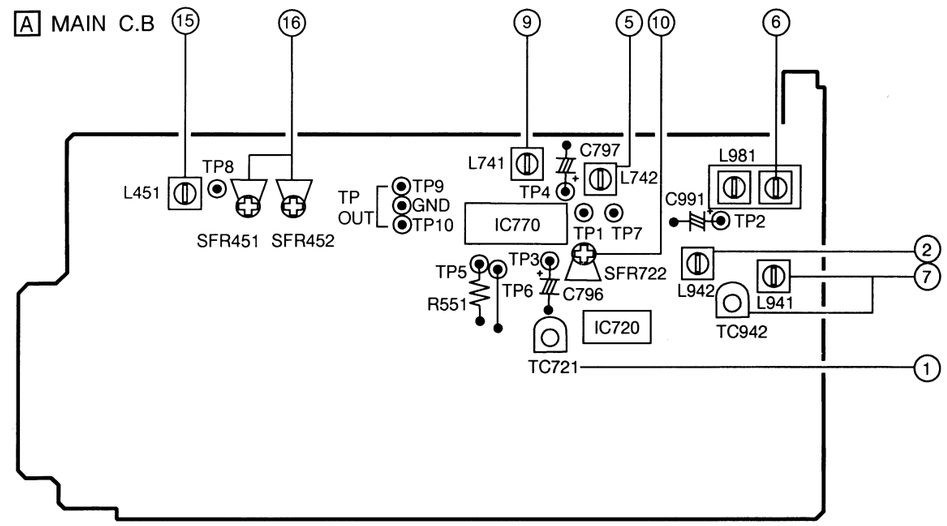


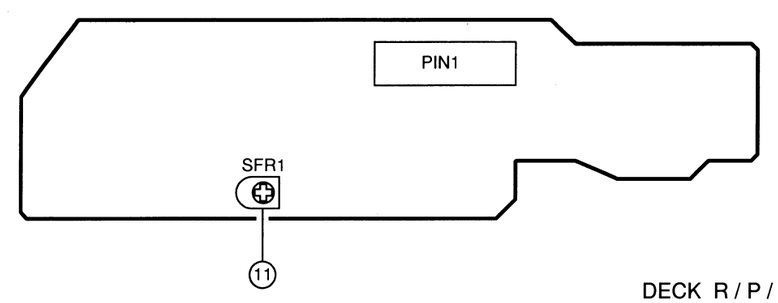

C CD C.B
FROM B FRONT C.B
CN104
FT103
TO PICK UP ASSY PIN2
TO J MOTOR-1 C.B PIN105
TO PICK UP ASSY PIN1
CON5
PIN301
IC51
IC101
IC1
IC301
IC302
IC303
IC601
FT102
SFR1
SFR2
SFR3
SFR4
X101
TO A MAIN C.B CON603
FT101
CON901
E LED-1 C.B
D901~904
(CD KEY BACK LIGHT)
PICK UP ASSY KSS-210A
PIN1
PIN2
J MOTOR-1 C.B
M20
(SLED MOTOR)
M21
(SPINDLE MOTOR)
SW1
(INSIDE LIMIT SW)
FROM C CD C.B PIN51
N LED C.B
LED41, 42
DISC SENSOR LIGHT
CONN41
L CONNECTOR C.B
SW1
TRAY
(OPEN/CLOSE)
W2
CONN1
CONN2
CONN3
SW3
TRAY
(UP/DOWN)
SOLDER
O PH C.B
PH21
M1
(CD CHACK MOTOR)
M2
(TRAY OPEN/CLOSE MOTOR)
SW2
(CD CHACK)
M SENSOR C.B
CONN51
Q1
Q2
M11
(TRAY UP/DOWN MOTOR)
K MOTOR C.B

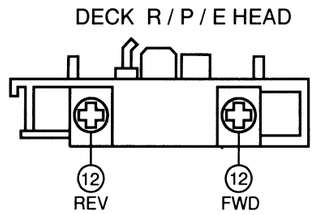
WIRING - 5 (PT)



ADJUSTMENT – 1 <TUNER / DECK>







< TUNER SECTION >

1. Clock Frequency Adjustment
   Settings : • Test point : TP1 (CLK IC770 pin30)
   • Adjustment location : TC721
   Method : Set to MW 1602kHz (HE, HR, EZ), 1710kHz (LH, U) and adjust TC721 so that the test point becomes 2052kHz ± 0.01kHz (HE, HR,EZ), 2160kHz ± 0.01kHz (LH, U).

2. LW VT Adjustment < EZ>
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz and adjust L942 so that the test point becomes 1.5V ± 0.05V.

3. FM VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to FM 108MHz and check that the test point is 7.0V ± 1.0V.

4. MW VT Check
   Settings : • Test point : TP2 (VT)
   Method : Set to MW 1602kHz (HE, HR, EZ), 1710kHz (LH, U) and check that the test point is 6.5V ± 1.0V (HE, HR, EZ), 7.0V ± 1.0V (LH, U).

5. AM IF Adjustment
   Settings : • Test point : TP5 (Lch), TP6 (Rch)
   L742 ..... 450kHz
   Method : Set to MW 999kHz (HE, HR, EZ), 1000kHz (LH, U) and adjust L742 so that the test point becomes maximum.

6. MW Tracking Adjustment
   Settings : • Test point : TP5 (Lch), TP6 (Rch)
   • Adjustment location : L981
   Method : Set to MW 999kHz (HE, HR, EZ), 1000kHz (LH, U) and adjust L981 so that the test point becomes maximum.

7. LW Tracking Adjustment <EZ>
   Settings : • Test point : TP5 (Lch), TP6 (Rch)
   • Adjustment location :
   L941 ..... 144kHz
   TC942 ..... 290kHz
   Method : Set up TC942 to center before adjustment. The level at 144kHz is adjusted to MAX by L941. Then the level at 290kHz is adjusted to MAX by TC942.

8. FM Sensitivity Check
   Settings : • Test point : TP5 (Lch), TP6 (Rch)
   Method : Set to FM 87.5MHz and 108MHz, and check that the test point is 2dB ± 6dB (HE, HR, LH, U), 6dB ± 6dB (EZ).

9. DC Balance / Mono Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC Balance)
   TP5, TP6 (Mono Distortion)
   • Adjustment location : L741
   • Input level : 54dB
   Method : Set to FM 98.0MHz and adjust L741 so that the voltage between TP3 and TP4 becomes 0V ± 0.04V.
   Next, check that the distortion is less than 1.3%.

10. FM Auto Stop Level Adjustment
    Settings : • Test point : TP7
    • Adjustment location : SFR722
    • Input level : 16dB
    Method : Set to FM 98.0MHz and adjust voltage low (about 0.01V) by SFR722. After that voltage high (about 7.0V) out by 2dB down.

< DECK SECTION >

11. Tape Speed Check
    Settings : • Test tape : TTA–100
    • Test point : TP OUT
    • Adjustment location : SFR1
    Method : Play back the test tape and check for 3000Hz ± 5Hz (FWD) and FWD PLAY speed ± 45Hz (REV).

12. Head Azimuth Adjustment
    Settings : • Test tape : TTA–300
    • Test point : TP OUT
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back the 10kHz signal of the test tape and adjust screw so that the output becomes maximum.
    Next, perform on each FWD PLAY and REV PLAY mode.

13. PB Sensitivity Check
    Settings : • Test tape : TTA–200
    • Test point : TP OUT
    Method : Play back the 400Hz signal of the test tape and check that the test point is within 300mV ± 3dB.

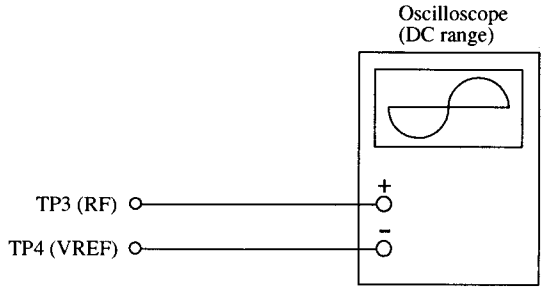
14. PB Frequency Response Check
    Settings : • Test tape : TTA–300
    • Test point : TP OUT
    Method : Play back the 315Hz and 10kHz signals of the test tape and check that the 10kHz signal with respect to that of the 315Hz signal is within 2dB.

15. Bias OSC Frequency Adjustment
    Settings : • Test tape : TTA–601
    • Test point : TP8
    • Adjustment location : L451
    Method : Set to the REC mode. Adjust L451 so that the frequency at the test point becomes 84kHz to 89kHz.

16. REC/PB Frequency Response Adjustment
    Settings : • Test tape : TTA–602
    • Test point : TP OUT
    • Input signal : 1kHz / 10kHz (VIDEO/AUX IN)
    • Adjustment location : SFR451 (Lch) SFR452 (Rch)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP OUT becomes 21mV.
    Record and play back the 1kHz and 10kHz signals and adjust SFRs so that the output level of the 10kHz signal becomes 0dB ± 0.5dB with respect to that of the 1kHz.

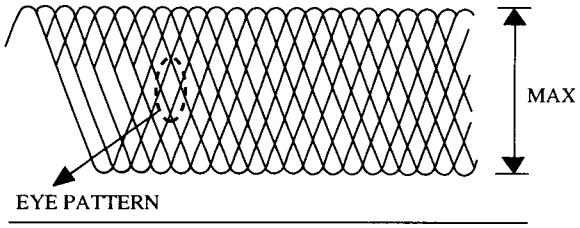
17. REC/PB Sensitivity Check
    Settings : • Test tape : TTA–602
    • Test point : TP OUT
    • Input signal : 1kHz(VIDEO/AUX IN)
    Method : Apply a 1kHz signal and REC mode. Then adjust OSC attenuator so that the output level at the TP OUT becomes 21mV.
    Record and play back the 1kHz signal and check that the output leve is 21mV ± 3dB.

3. Focus Bias Adjustment
Make the focus bias adjustment when replacing and repairing the optical block.



1) Connect an oscilloscope to the test points TP3 (RF) and TP4 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR1 so that RF signal of the test point TP3 (RF) is MAX and CLEARREST.

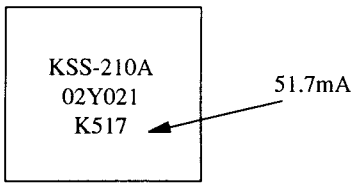
RF signal waveform



must be CLEAR and MAX

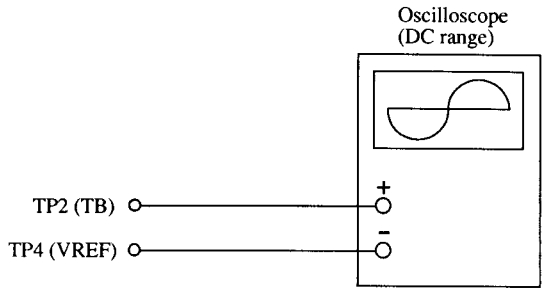
VOLT / DIV: 50mV
TIME / DIV: 0.5μs

Note:
The current of the laser signal can be checked with the voltages on both sides of R23 (10Ω). The difference for the specified value shown on the level must be within ± 6.0mA.

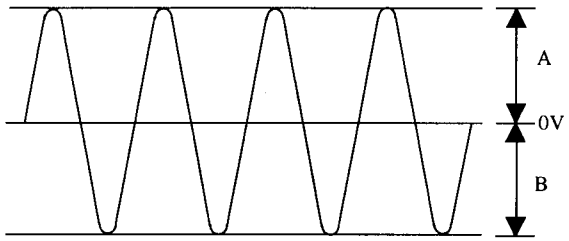


$$\text{Laser current Iop} = \frac{\text{Voltage across R23}}{10\Omega}$$

4. Tracking Balance Adjustment



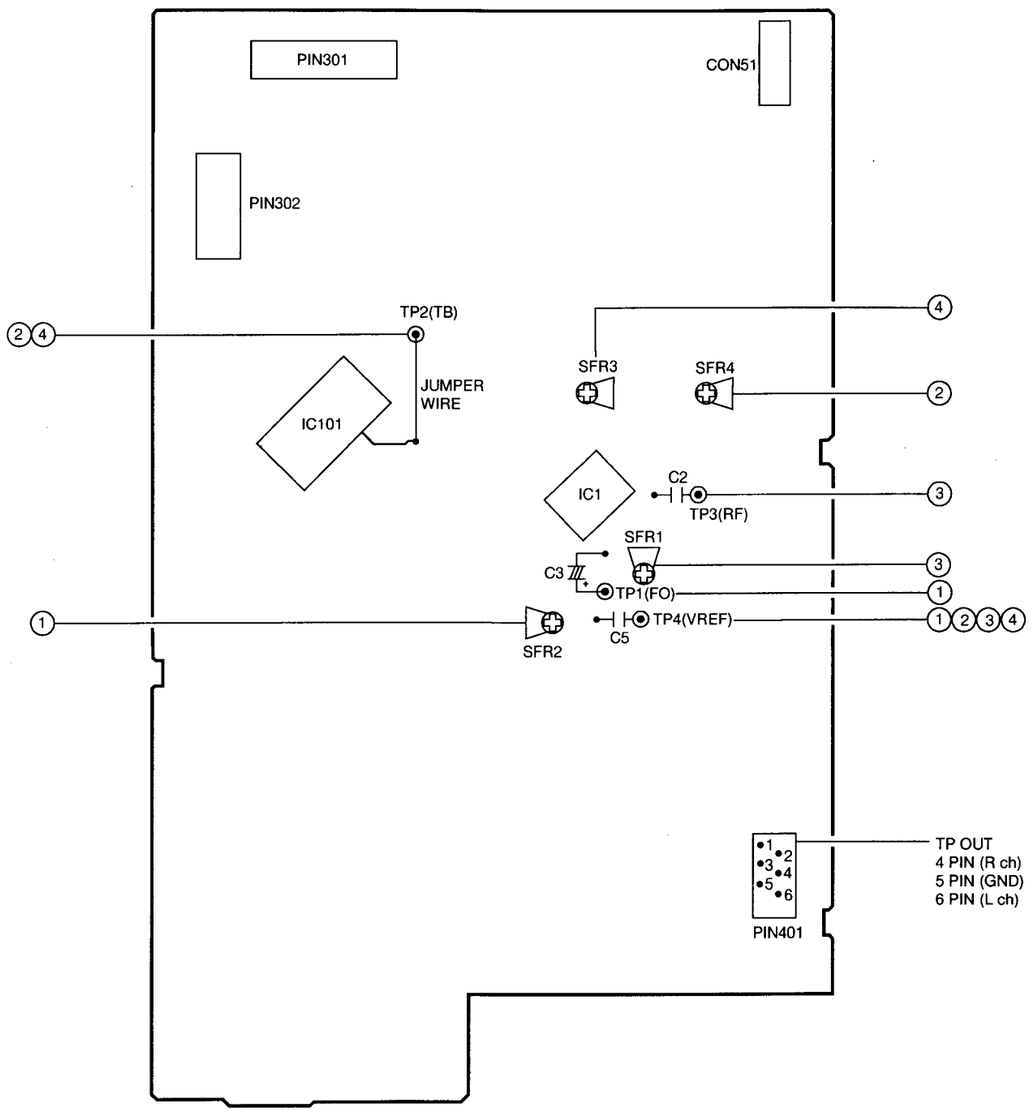
1) Connect an oscilloscope to the test points TP2 (TB) and TP4 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Adjust SFR3 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
5) After the adjustment is completed, remove the connected lead wires from the terminals.



A=B

VOLT / DIV: 20mV
TIME / DIV: 1mS

C CD C.B

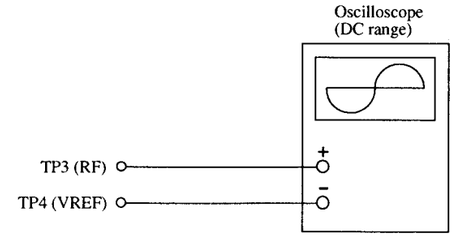


Note :
Connect a probe (10:1) of the oscilloscope or the frequency counter to a test point.

1. Focus Offset Adjustment
   1) Short the pin 1 and pin 3 of PIN401 with wire.
   2) Connect an oscilloscope to the test points TP1 (FO) and TP4 (VREF).
   3) Turn on the power switch.
   4) Adjust SFR2 so that the offset voltage becomes 0mV ± 5mV.
   5) After the adjustment is completed, remove the short wire from PIN401.

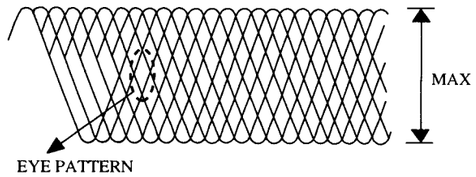
2. Tracking Offset Adjustment
   1) Short the pin 1 and pin 3 of PIN401 with wire.
   2) Connect an oscilloscope to the test points TP2 (TB) and TP4 (VREF).
   3) Turn on the power switch.
   4) Adjust SFR4 so that the offset voltage becomes 0mV ± 5mV.
   5) After the adjustment is completed, remove the short wire from PIN401.

3. Focus Bias Adjustment
   Make the focus bias adjustment when replacing and repairing the optical block.



1) Connect an oscilloscope to the test points TP3 (RF) and TP4 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and play back the second composition.
4) Adjust SFR1 so that RF signal of the test point TP3 (RF) is MAX and CLEARREST.

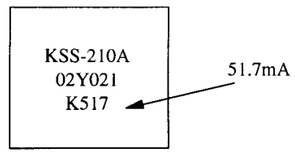
RF signal waveform



must be CLEAR and MAX

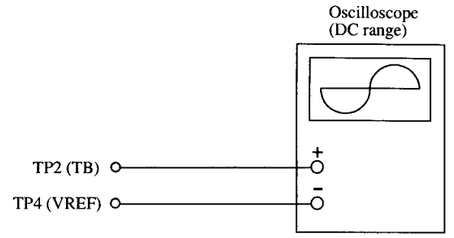
VOLT / DIV: 50mV
TIME / DIV: 0.5μs

Note:
The current of the laser signal can be checked with the voltages on both sides of R23 (10Ω). The difference for the specified value shown on the level must be within ± 6.0mA.

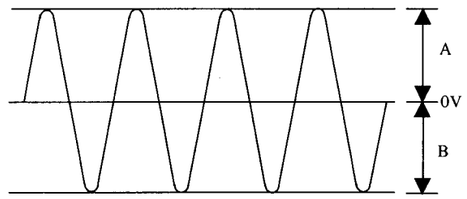


$$\text{Laser current Iop} = \frac{\text{Voltage across R23}}{10\Omega}$$

4. Tracking Balance Adjustment



1) Connect an oscilloscope to the test points TP2 (TB) and TP4 (VREF).
2) Turn on the power switch.
3) Insert test disc TCD-782 (YEDS-18) and press the PLAY button.
4) Adjust SFR3 so that the waveform on the oscilloscope is vertically symmetrical as shown in the figure below.
5) After the adjustment is completed, remove the connected lead wires from the terminals.



A=B

VOLT / DIV: 20mV
TIME / DIV: 1mS

PRACTICAL SERVICE FIGURE

<TUNER SECTION>

<FM SECTION>

IHF Sensitivity :	6dB ± 6dB
(THD 3%)	[at 87.5MHz (HE, HR, LH, U)]
	12dB ± 6dB
	[at 87.5MHz (EZ)]
	4dB ± 6dB
	[at 98.0 / 108.0MHz (HE, HR, LH, U)]
	11dB ± 6dB
	[at 98.0 / 108.0MHz (EZ)]
S/N 50dB Quieting sensitivity :	
	30dB ± 5dB
	[at 87.5 / 98.0 / 108.0MHz
	(HE, HR, LH, U)]
	36dB ± 5dB
	[at 87.5 / 98.0 / 108.0MHz (EZ)]
Signal to noise ratio :	More than 64dB
	[at 98.0MHz (HE, HR, LH, U)]
	More than 59dB
	[at 98.0MHz (EZ)]
Distortion :	Less than 1.5%
	[at 98.0MHz]
Auto stop level :	20dB ± 10dB [at 98.0MHz]
Stereo separation :	More than 25dB [at 98.0MHz (HE,HR, LH, U)]
	More then 20dB [at 98.0MHz (EZ)]
Intermediate frequency :	10.7MHz

<AM(MW) SECTION>

Sensitivity :	48 ~ 62dB
(S/N 20 dB)	[at 603kHz (HE, HR,EZ)]
	[at 620kHz (LH, U)]
	47 ~ 59dB
	[at 999kHz (HE, HR, EZ)]
	[at 1000kHz (LH, U)]
	47 ~ 59dB
	[at 1404kHz (HE, HR, EZ)]
	[at 1410kHz (LH, U)]
Signal to noise ratio :	More than 36dB
	[at 999kHz (HE, HR, EZ)]
	[at 1000kHz (LH, U)]
Distortion :	Less than 1.5%
	[at 999kHz (HE, HR, EZ)]
	[at 1000kHz (LH, U)]
Auto stop level :	55dB ± 10dB
	[at 999kHz (HE, HR, EZ)]
	[at 1000kHz (LH, U)]
Intermediate frequency :	450kHz

<LW SECTION>(EZ only)

Sensitivity :	66dB ± 5dB [at 144kHz]
(S/N 20dB)	63dB ± 5dB [at 198kHz]
	62dB ± 5dB [at 290kHz]
Signal to noise ratio :	More than 32dB [at 198kHz]
Distortion :	Less than 1.5% [at 198kHz]
Auto stop level :	60dB ± 10dB
	[at 198kHz]
Intermediate frequency :	450kHz

<DECK SECTION>

Tape speed :	3000Hz ± 45Hz
Wow & flutter :	Less than 0.35% (R.M.S)
Take-up torque :	30 ~ 55g-cm (FWD, REV)
F.F & REW torque :	75 ~ 180g-cm
Back tension :	2 ~ 7g-cm (FWD, REV)
PB output level :	2.8V ± 3dB (SP OUT 2V)
REC/PB output level :	2.0V ± 3dB (SP OUT 2V)
Distortion (REC/PB) :	Less than 2.0%
Noise level (PB) :	Less than 110mV
	(NORM, SP OUT 2V)
	Less than 80mV
	(CrO_2, SP OUT 2V)
Noise level (REC/PB) :	Less than 30mV/10mV
	(DIN/WTD, NORM, SP OUT 2V)
	Less than 20mV/8mV
	(DIN/WTD, CrO_2, SP OUT 2V)
Crosstalk :	More than 60dB (1kHz, 0VU)
Channel separation :	More than 40dB (1kHz, 0VU)
Erasing ratio :	More than 60dB (at 125Hz)
Test tape :	TTA-602 (NORMAL)
	TTA-610 (CrO_2)

TEST MODE

1. How to Activate CD Test Mode
1) Insert the AC plug while pressing the function CD button.
2) All FL display tubes will light up, and initialization will be started. (Initialize time: approx. 80 seconds)

2. How to cancel CD Test Mode
Either one of the following operations will cancel the CD test mode.
- Press the function button. • Press the power switch button.
- Disconnect the AC plug.

3. CD Test Mode Functions
When test mode is activated, the following mode functions from No. 1 to No. 5 can be used by pressing the operation keys.

Mode / No.	Operation	FL display	Operation	Contents
Start mode No. 1	Test mode activation	All FL light up	• Laser diode illuminated under normal circumstances (CD block power supply ON)	Displays the machine mode that it is a test mode. All FL displays light up • Laser current measurement (Across R29 100 ohms resistor)
Search mode No. 2	■ key	C0--	• Continual focus search * NOTE 1 (The pickup lens repeats the full-swing up-down motion.) * Avoid continual searches that last for more than 10 minutes.	FOCUS SERVO • Check focus search waveform (OSC1 terminal) • Check focus error waveform (FE1 terminal)
Play mode No. 3	▶ key	C01	• Normal playback • Focus search is continued if TOC cannot be read * NOTE 1	FOCUS SERVO / TRACKING SERVO CLV SERVO / SLED SERVO Check FOK (SEL terminal)
Traverse mode No. 4	⏸ key	C01	• During normal disc playback Press once; tracking servo OFF Press twice; tracking servo ON * NOTE 2	TRACKING SERVO ON / OFF Tracking balance (traverse) adjustment
Sled mode No. 5	⏮ key ⏭	All FL light up	• Pickup moves to the outermost track • Pickup moves to the innermost track * NOTE 3 (During playback, machine operates normally.)	SLED SERVO Check SLED mechanism operation

* NOTE 1: There are cases when the tracking servo cannot be locked owing to the protection circuit being operated when heat builds up in the driver IC if the focus search is operated continually for more than 10 minutes. In these cases, the power supply should be switched off for 10 minutes until heat has been reduced and then re-started.

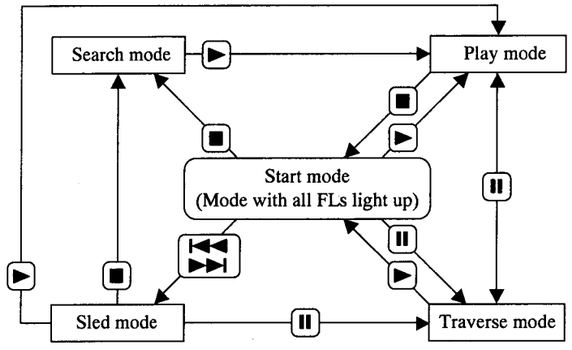
* NOTE 2: Do not press the ⏮ or ⏭ keys when the machine is in the ⏸ status is active. If they are pressed, playback will not be possible after the ⏸ status has been canceled. If the ⏮ or ⏭ keys are pressed in the ⏸ status, press the ■ key and return to start mode (No. 1).

* NOTE 3: When pressing the ⏮ or ⏭ keys, take care to avoid damage to the gears. Because the sled motor is activated when the ⏮ or ⏭ keys are pressed, even when the pick-up is at the outermost or innermost track.

* NOTE 4: Press the eject key if the CD changer mechanism is jammed while initializing.

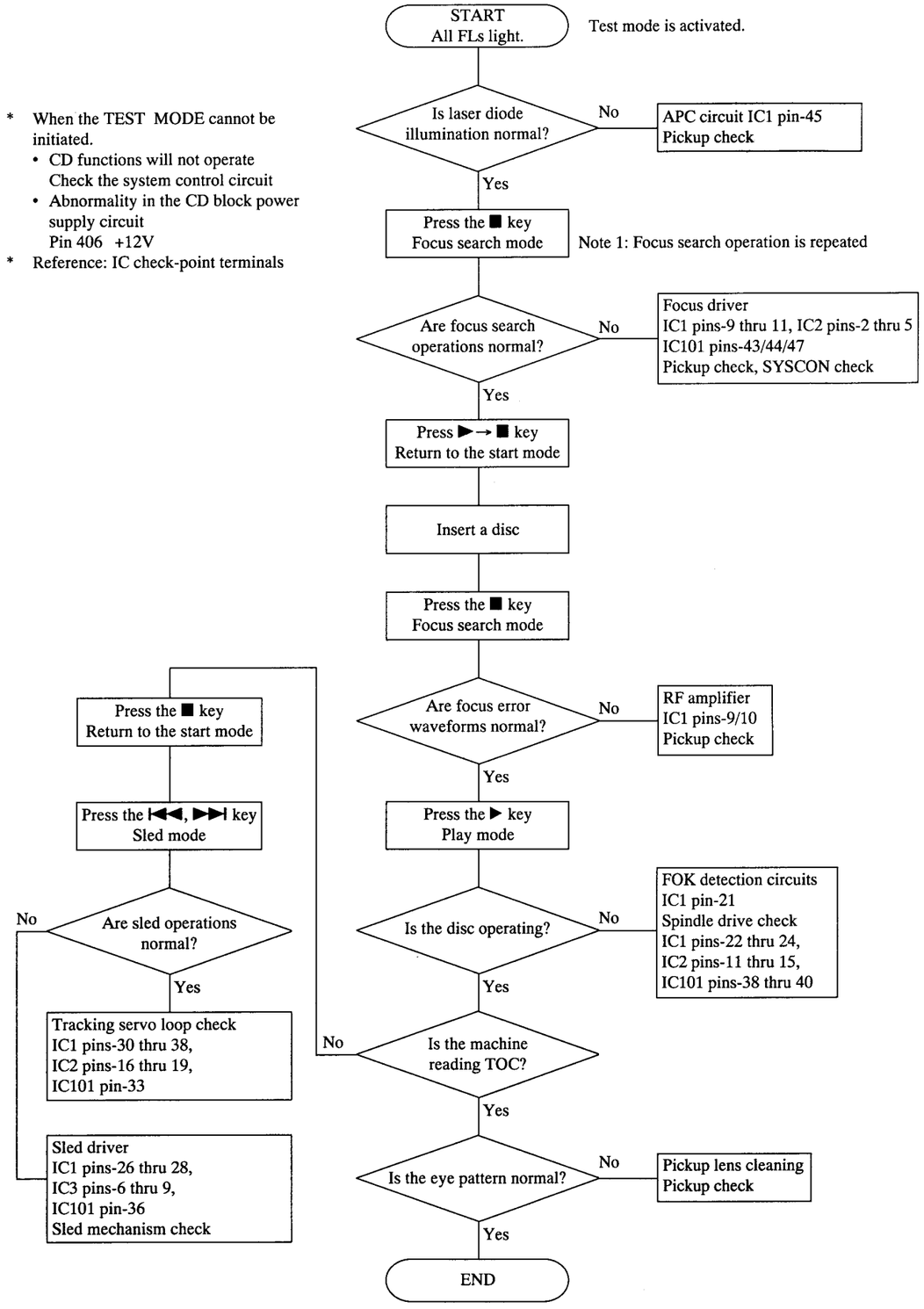
* NOTE 5: Disc cannot be changed during the test mode. (Use the first disc tray)

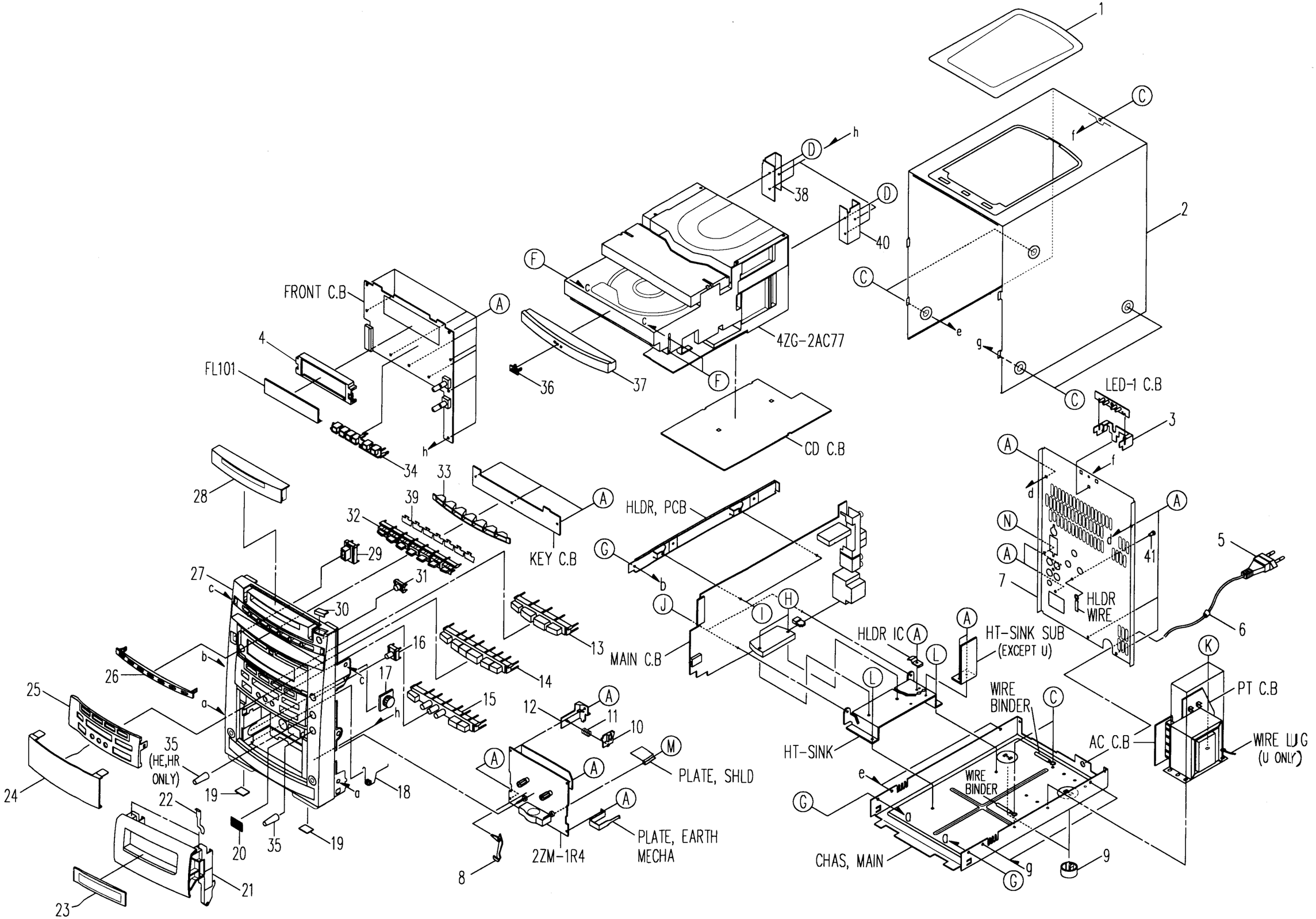
4. Operation Outline
The operation of each mode is carried out in the direction of the arrows from the start mode as indicated in the following illustration.



CD TROUBLE-SHOOTING
Flow Chart

* When the TEST MODE cannot be initiated.
  - CD functions will not operate
    Check the system control circuit
  - Abnormality in the CD block power supply circuit
    Pin 406 +12V
* Reference: IC check-point terminals

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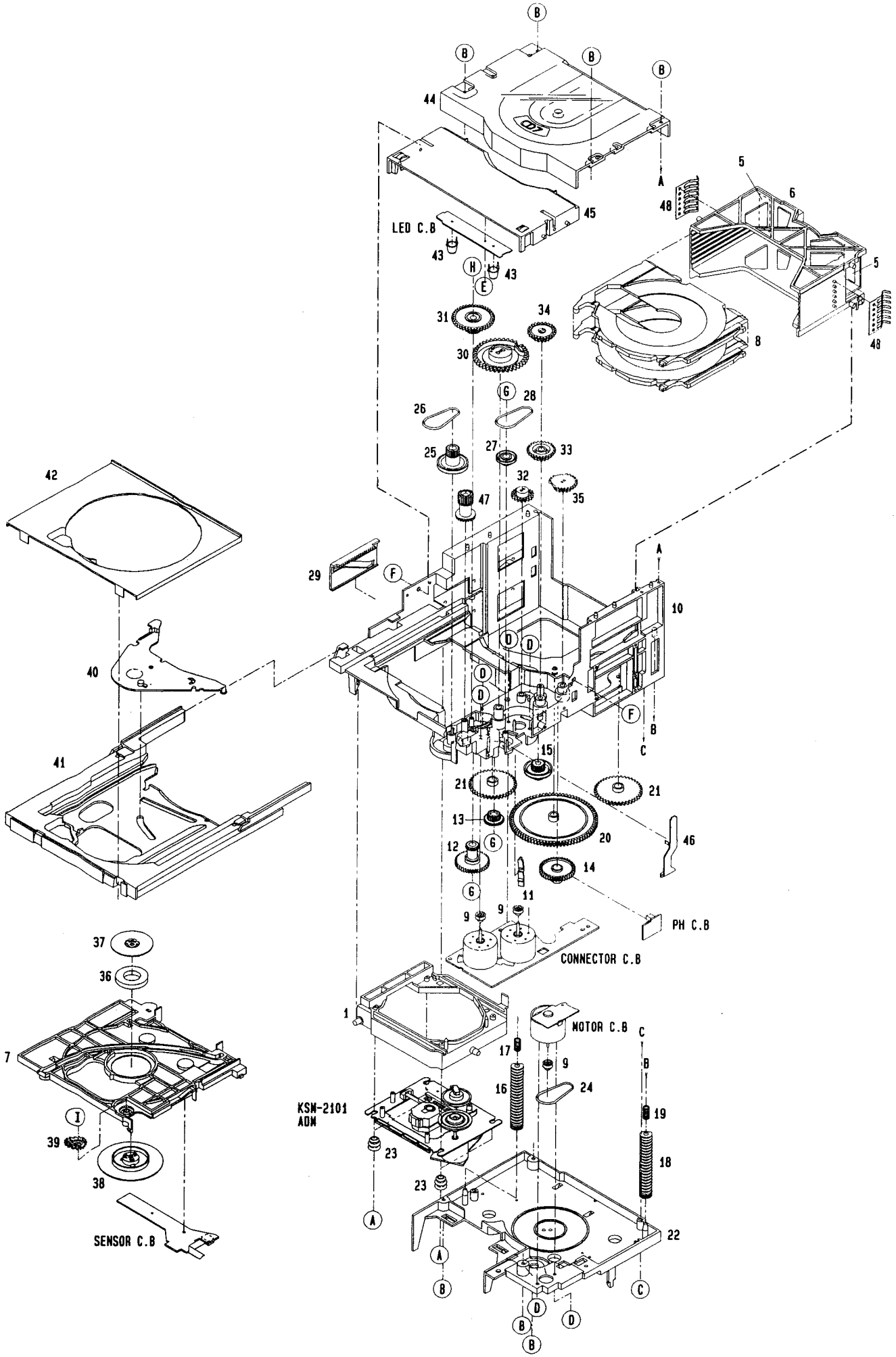
41
FRONT C.B
FL101
4ZG-2AC77
CD C.B
LED-1 C.B
KEY C.B
HLDR, PCB
MAIN C.B
HLDR IC
HT-SINK SUB
(EXCEPT U)
HLDR
WIRE
HT-SINK
WIRE
BINDER
WIRE
BINDER
CHAS, MAIN
PT C.B
AC C.B
WIRE LUG
(U ONLY)
PLATE, SHLD
PLATE, EARTH
MECHA
2ZM-1R4
35
(HE,HR
ONLY)

MECHANICAL PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	85-CL5-019-119		WINDOW,TOP
2	86-CF1-029-019		CABI,STEEL SIL
3	85-CL5-212-019		HLDR,LED
4	82-NF7-210-019		GUIDE,FL
⚠ 5	87-050-053-019		AC CORD ASSY,U-2<U>
⚠ 5	87-050-079-019		AC-CORD ASSY,E<EXCEPT U>
6	87-085-185-010		BUSHING,AC CORD E<EXCEPT U>
6	87-085-189-010		BUSHING,CORD U<U>
7	86-CF1-015-019		PANEL,REAR EZSNM<EZ>
7	86-CF1-016-019		PANEL,REAR HEJSNM<HE>
7	86-CF1-026-019		PANEL,REAR HRJSNM<HR>
7	86-CF1-028-019		PANEL,REAR LHSNM<LH>
7	86-CF1-027-019		PANEL,REAR USNM<U>
8	82-ZM1-263-119		LVR,EJECT L
9	81-675-010-010		FOOT,H10
10	82-NF5-229-019		PLATE,LOCK
11	82-NF5-228-019		SPR-C,LOCK
12	82-NF5-226-019		HLDR LOCK 1N
13	85-CL5-012-019		KEY ASSY,FUN
14	85-CL5-010-019		KEY,PLAY
15	85-CL5-009-219		KEY,AMP
16	86-CF1-008-019		KEY,KARAOKE SIL
17	87-063-165-019		OIL-DMPR 150
18	84-CF3-207-219		SPR-T,EJECT
19	80-VT1-202-019		FELT,12.5-15.5-2
20	81-532-080-019		LBL,CASS-COMPT
21	86-CF1-003-019		BOX,CASS SIL
22	80-CD3-218-110		SPR-P CASS
23	85-CL5-021-019		WINDOW,CASS
24	85-CL5-020-019		WINDOW,DISP
25	86-CF1-011-019		PANEL,FR SIL
26	86-CF1-012-019		PANEL,CD SIL
27	86-CF1-004-019		CABI,FR H SIL<HE,HR>
27	86-CF1-001-019		CABI,FR SIL<EZ,LH>
27	86-CF1-025-019		CABI,FR U SIL<U>
28	85-CL5-022-019		WINDOW,CD
29	86-CF1-005-019		KEY,POWER SIL
30	86-CF1-007-019		KEY,DISC SIL
31	86-CF1-006-019		KEY,OPEN SIL
32	85-CL5-008-119		KEY,CD
33	85-CL5-205-019		GUIDE,LED CD
34	85-CL5-206-019		GUIDE,LED PLAY
35	86-CF1-009-019		KNOB,RTRY MIC SIL
36	82-NE6-067-019		BADGE AIWA 30N
37	86-CF1-010-019		PANEL,TRAY SIL
38	85-CL5-209-019		HLDR,CD1
39	85-CL5-023-019		SH,CD
40	85-CL5-210-019		HLDR,CD2
41	87-084-077-019		NYLON RIVET DIA 3.5 - 4.5
A	87-067-703-019		BVT2+3-10 (W/O SLOT)
B	87-751-096-419		VT2+3-10 GLD
C	87-067-641-019		UTT2+3-8 W/O SLOT BLK
D	87-067-579-019		BVT 2+3-8 W/O SLOT
E	87-078-019-019		S-SCREW,IT+4-6
F	87-721-097-419		QT2+3-12 GLD
G	87-591-094-419		QIT + 3 - 6 GOLD
H	87-067-581-019		BVT2+3-15 W/O SLOT
I	87-078-084-019		BVTT+3-6 W,CONVEX
J	87-067-633-019		BVT2+3-8 W/CONVEX
K	87-751-092-419		VT2+3-4
L	87-067-584-019		BVT2+3-6 W/O SLOT
M	87-571-032-419		VIT+2-3
N	87-571-092-419		VIT+3-4

CD MECHANISM EXPLODED VIEW 1 / 2

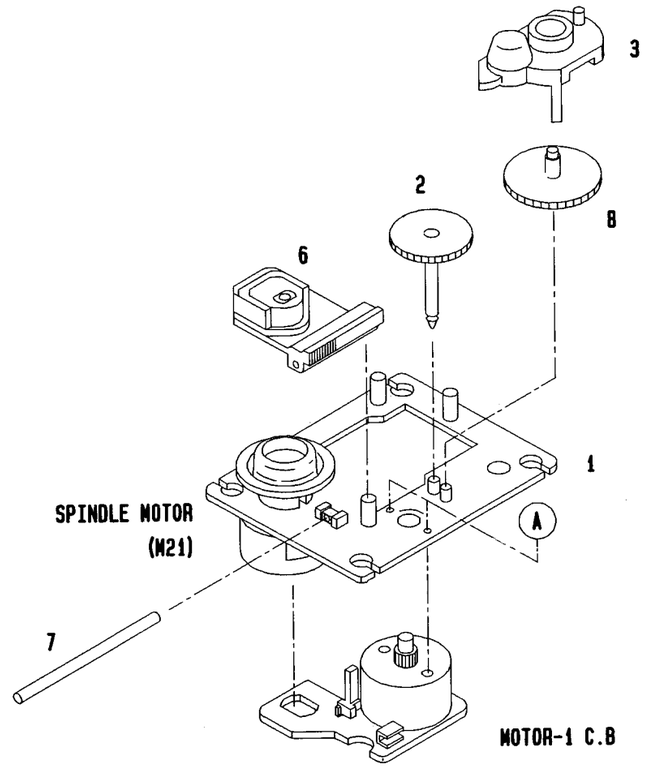


CD MECHANISM PARTS LIST 1 / 2

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZG2-205-010		HLDR,MECH
5	84-ZG2-237-010		CLOTH,BOX
6	84-ZG2-203-010		BOX,TRAY
7	84-ZG2-204-010		HLDR,MAGNET
8	84-ZG2-006-010		TRAY,DISC
9	84-ZG2-228-010		PULLEY,MOT
10	84-ZG2-201-010		CHAS,MECH
11	84-ZG2-225-010		LVR,A
12	84-ZG2-213-010		GEAR,TRAY LOAD-B
13	84-ZG2-214-010		GEAR,TRAY LOAD-C
14	84-ZG2-209-010		GEAR,UP DOWN-B
15	84-ZG2-208-010		GEAR,UP DOWN-A
16	84-ZG2-206-010		GEAR,CAM BOX 1
17	84-ZG2-238-010		SPR-C,G-BOX 1
18	84-ZG2-207-010		GEAR,CAM BOX 2
19	84-ZG2-239-010		SPR-C,G-BOX 2
20	84-ZG2-210-010		GEAR,UP DOWN-C
21	84-ZG2-211-010		GEAR,UP DOWN-D
22	84-ZG2-202-010		CHAS,BOTTOM
23	80-CD3-214-010		CUSH CD A
24	84-ZG2-231-010		BELT,SQ-C
25	84-ZG2-221-010		GEAR,MECH-F
26	84-ZG2-229-010		BELT,SQ-A
27	84-ZG2-215-010		GEAR,TRAY LOAD-D
28	84-ZG2-230-010		BELT,SQ-B
29	84-ZG2-224-010		CAM,SL
30	84-ZG2-223-010		GEAR,CAM
31	84-ZG2-220-010		GEAR,MECH-E
32	84-ZG2-219-010		GEAR,MECH-D
33	84-ZG2-218-010		GEAR,MECH-C
34	84-ZG2-217-010		GEAR,MECH-B
35	84-ZG2-216-010		GEAR,MECH-A
36	87-036-326-010		MAGNET,CLAMPER 93
37	81-ZG1-229-110		PLATE,MAGNET
38	81-ZG1-228-210		HLDR,MAGNET
39	84-ZG2-222-010		GEAR,CAM LOCK
40	84-ZG2-003-010		LVR,TRAY
41	84-ZG2-001-010		TRAY,L
42	84-ZG2-002-010		TRAY,COVER
43	84-ZG2-240-010		COVER,LED 2
44	84-ZG2-011-010		COVER,TOP S
45	84-ZG2-010-010		COVER,LED
46	84-ZG2-226-010		LVR,B
47	84-ZG2-212-010		GEAR,TRAY LOAD-A
48	84-ZG2-232-010		SPR-P,LOCK
A	81-ZG1-271-010		S-SCREW,MECH REAR
B	87-067-703-010		BVT2+3-10 (W/O SLOT)
C	87-067-822-010		BVT 2+3-20W/O SLOT
D	87-251-071-410		U+2.6-4
E	87-067-584-010		BVT2+3-6
F	87-721-097-410		QT2+3-12 GLD
G	87-067-828-010		VFT2+3-15DIA10,GLD
H	87-078-061-010		VFT2+3-20DIA10,GLD
I	87-761-097-410		VFT2 +3-12

CD MECHANISM EXPLODED VIEW 2 / 2

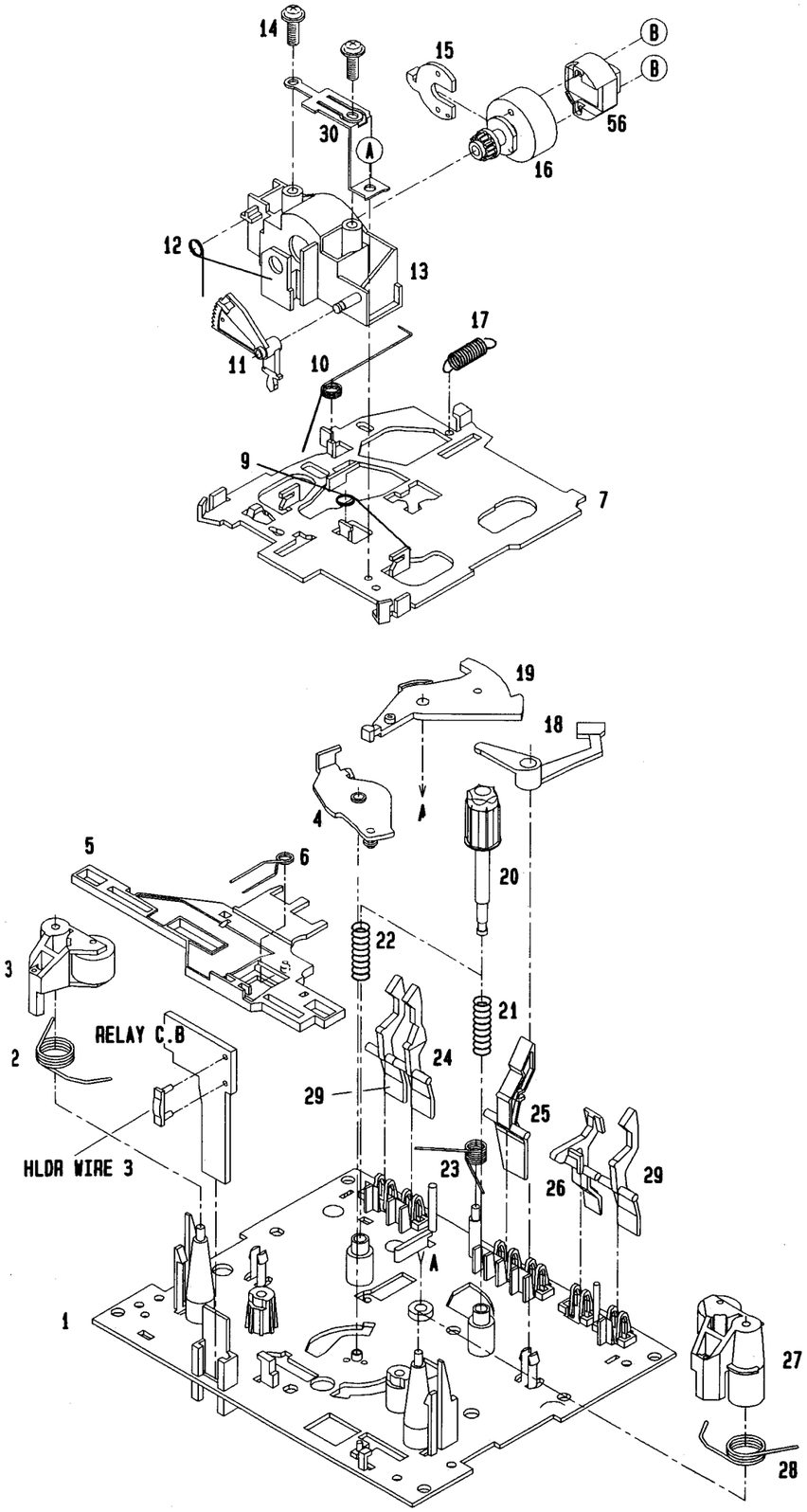


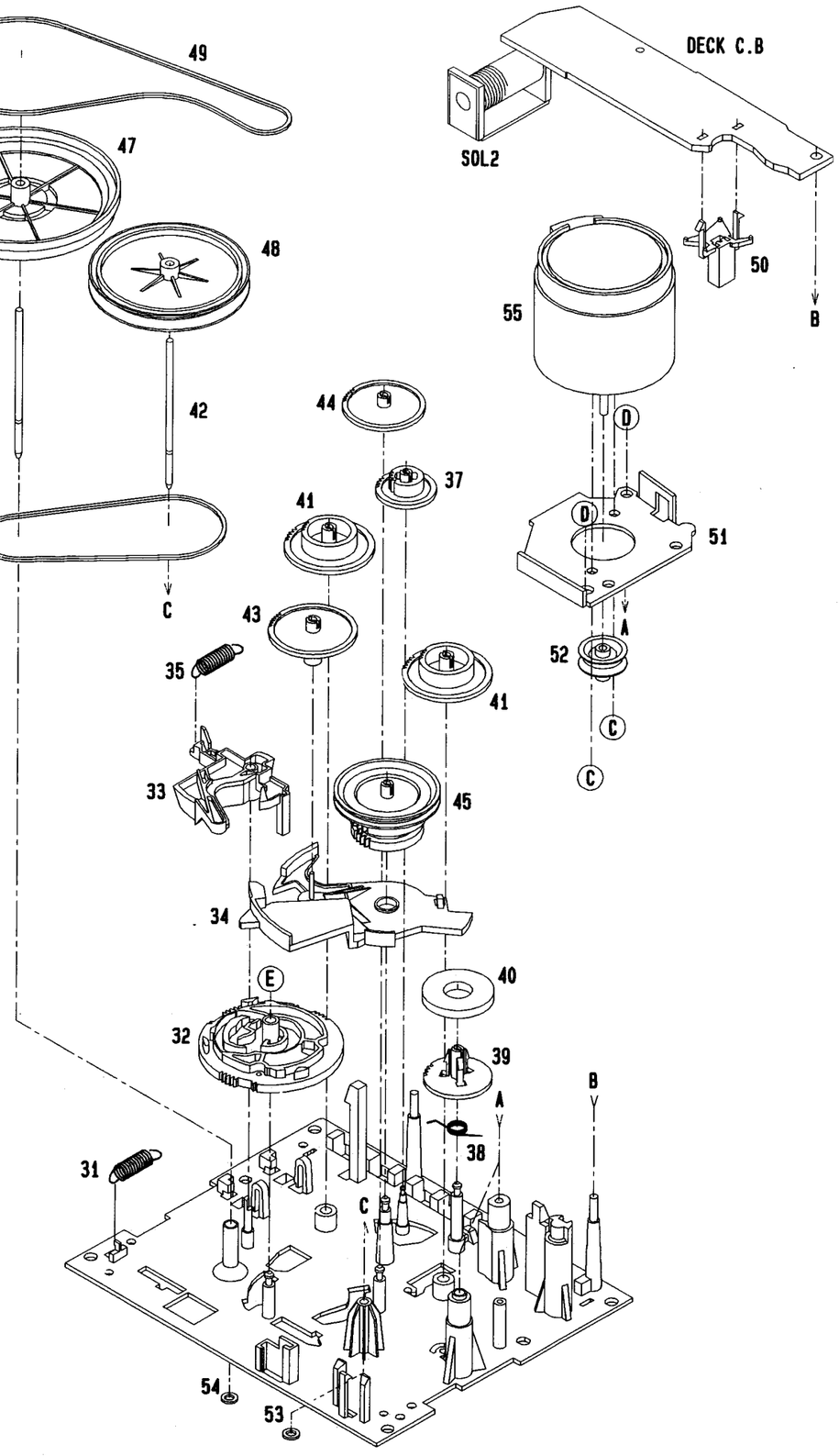
CD MECHANISM PARTS LIST 2 / 2

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	9X-262-587-110		MOTOR CHASSIS ASSY
2	92-625-188-020		GEAR(A)
3	92-625-544-010		COVER
6	98-848-127-110		OPTICAL PICK UP KSS-210A
7	92-626-908-010		SHAFT SLED
8	92-626-081-010		GEAR B
A	87-261-032-210		V+2-3

TAPE MECHANISM EXPLODED VIEW 1 / 1



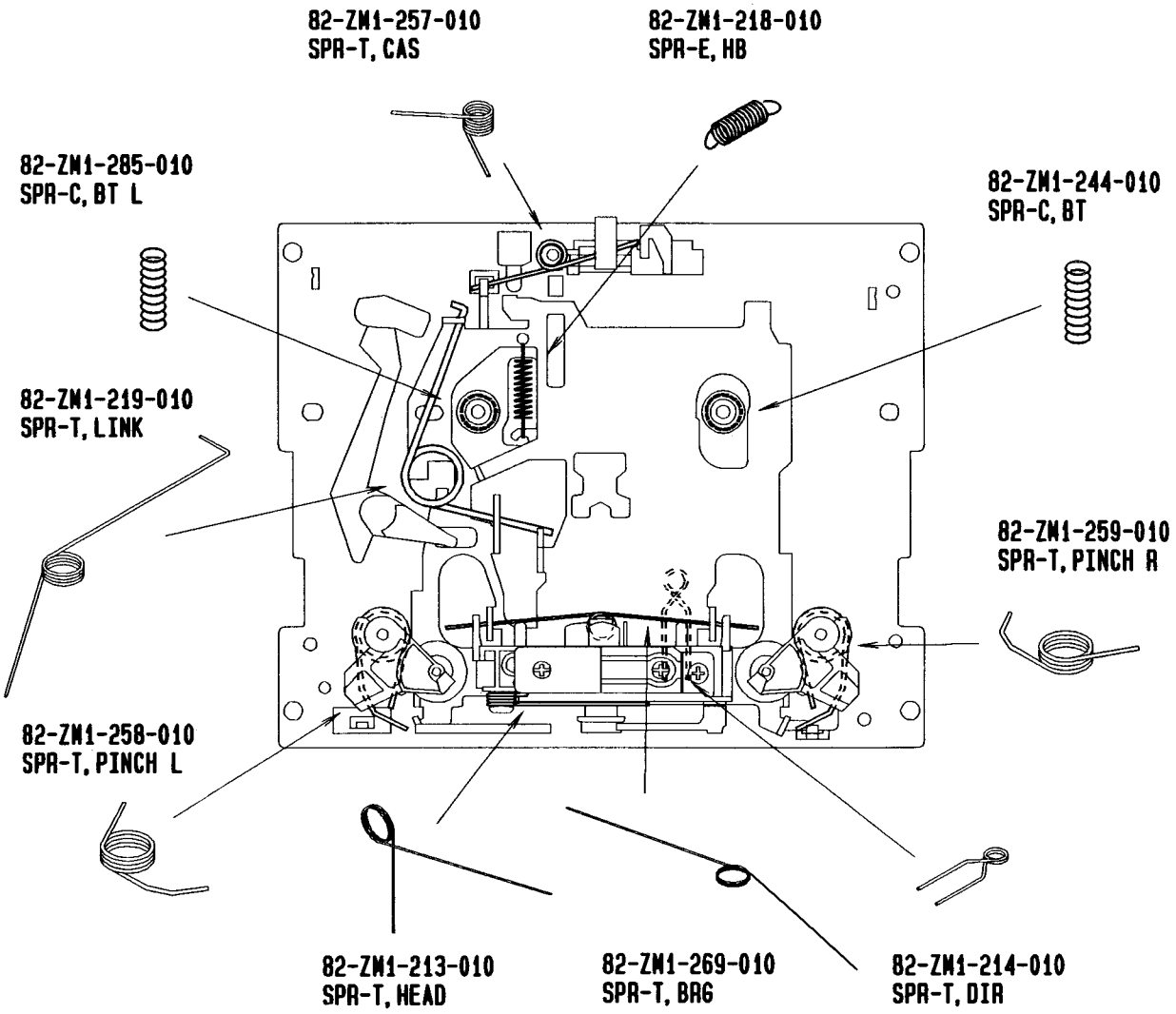


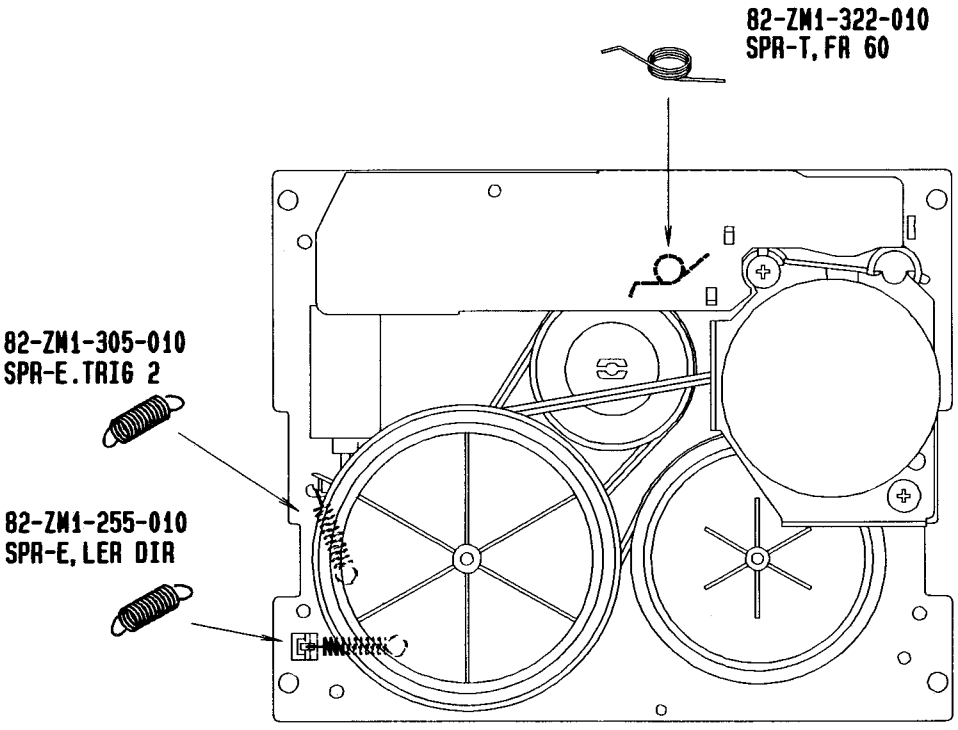
TAPE MECHANISM PARTS LIST 1 / 1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-299-110		CHAS ASSY,R
2	82-ZM1-258-010		SPR-T,PINCH L
3	82-ZM1-248-510		LVR ASSY,PINCH L
4	82-ZM1-295-310		PLATE ASSY,LINK
5	82-ZM1-266-110		LVR,DIR
6	82-ZM1-214-010		SPR-T,DIR
7	82-ZM1-206-610		CHAS,HEAD
9	82-ZM1-269-210		SPR-T,BRG
10	82-ZM1-219-110		SPR-T,LINK
11	82-ZM1-210-110		GEAR,H T
12	82-ZM1-213-010		SPR-T,HEAD
13	82-ZM1-207-610		GUIDE,TAPE
14	82-ZM1-283-310		S-SCREW,AZIMUTH
15	82-ZM1-314-119		PLATE,HEAD
16	82-ZM1-208-010		HLDR,HEAD
17	82-ZM1-218-010		SPR-E,HB
18	82-ZM1-264-010		LVR,EJECT R (DECK 1)
19	82-ZM1-222-210		LVR,PLAY
20	82-ZM1-217-310		REEL TABLE
21	82-ZM1-244-510		SPR-C,BT
22	82-ZM1-285-410		SPR-C,BT L
23	82-ZM1-257-010		SPR-T,CAS
24	82-ZM1-241-310		LVR,MC
25	82-ZM1-242-010		LVR,CAS
26	82-ZM1-243-010		LVR,STOP
27	82-ZM1-253-510		LVR ASSY,PINCH R
28	82-ZM1-259-010		SPR-T,PINCH R
29	82-ZM1-240-110		LVR,REC
30	82-ZM1-298-010		SPR-P,EARTH
31	82-ZM1-255-310		SPR-E,LVR DIR
32	82-ZM1-221-110		GEAR,CAM
33	82-ZM1-227-210		LVR,TRIG
34	82-ZM1-224-410		LVR,FR
35	82-ZM1-305-110		SPR-E,TRIG 2
36	82-ZM1-312-019		CAPSTAN,N 2.2-41.7
37	82-ZM1-223-010		GEAR,PLAY
38	82-ZM1-322-010		SPR-T,FR 60
39	82-ZM1-220-210		GEAR,IDLER
40	82-ZM1-316-010		RING MAGNET 3
41	82-ZM1-216-310		GEAR,REEL
42	82-ZM1-313-019		CAPSTAN,N 2-41.5
43	82-ZM1-225-010		GEAR,FR
44	82-ZM1-226-010		GEAR,REW
45	82-ZM1-228-610		SLIP DISK ASSY
46	82-ZM1-334-010		BELT,FR 3
47	82-ZM1-238-610		FLY-WHL ASSY,R
48	82-ZM1-235-310		FLY-WHL ASSY,L
49	82-ZM1-260-010		BELT,MAIN
50	82-ZM1-245-210		HLDR,IC
51	82-ZM1-246-010		HLDR,MOTOR
52	82-ZM1-247-110		PULLEY,MOTOR
53	82-ZM1-288-010		SH,1.63-3.2-0.5 SLT
54	80-ZM6-243-010		SH,1.75-3.6-0.5 SLT
55	87-045-348-010		MOT,SHW 2L 70(M1)
56	87-046-414-019		HEAD,RPH KC9242(RPH)
A	82-ZM1-315-010		S-SCREW,GUIDE TAPE
B	80-ZM6-207-010		V+1.6-7
C	87-251-070-410		U+2.6-3
D	87-741-073-410		UT2+2.6-6 GLD
E	82-ZM1-597-010		PW,2.15-6.8-0.4 SLT

SPRING APPLICATION POSITION





SPEAKER PARTS LIST (SX-LM7)

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-CP1-002-010		PANEL FRONT R
2	86-CP1-003-010		PANEL FRONT L
3	86-CP1-004-010		GRILLE,FRAME ASSY
4	86-CP1-602-010		SPEAKER WOOFER
5	86-CP1-604-010		SPEAKER TWEETER

ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	86-CF1-904-019		IB,E-M<EZ>
1	86-CF1-905-019		IB,H-M<EXCEPT U>
1	86-CF1-906-019		IB,U-M<U>
2	85-CF5-652-019		RC,RC-T515
3	87-043-115-01B		ANT,FEEDER FM<EXCEPT EZ>
3	87-043-106-019		FM, WIRE ANT (Z)<EZ>
4	87-006-225-019		AM LOOP ANT NC2
⚠ 5	87-099-789-019		PLUG,ADPTR IR44<HE,HR,LH>

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, CERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
番号	連絡内容
G— —	
G— —	
G— —	

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